

REFERENCE COPY
LAKE ST. CLAIR REGION

R
REFERENCE

 ECONOMIC SURVEY

1967



HC
117
06A5153
no. 9

Ontario Department of Economics and Development

ehmm



HC
117
06A5153
no.9

LAKE ST. CLAIR REGION ECONOMIC SURVEY

1967

Applied Economics Branch
Office of the Chief Economist



ONTARIO DEPARTMENT OF ECONOMICS AND DEVELOPMENT

HON. JOHN P. ROBARTS
Prime Minister of Ontario

HON. STANLEY J. RANDALL
Minister of Economics and Development

PREFACE

The St. Clair Economic Survey is the ninth and final study in a series of regional economic reports prepared by the Applied Economics Branch (formerly, the Special Research and Surveys Branch). The study, as in previous reports of this nature, identifies and analyzes the main elements of economic activity, indicates the direction and degree of growth on a sectoral basis and sets out the Region's contribution to the Provincial economy. In addition, we have attempted to assess the Region's economic potential and accordingly, the report provides projections over the next ten or fifteen years of anticipated economic growth for major sectors of the regional economy.

The regional economic studies are designed to support the Government's regional development programme which seeks to aid and encourage all areas of the Province in realizing their full potential for economic and social development. The surveys provide comprehensive information and analyses in a practical form useful to those working in the field of economic development on a regional basis.

The broad array of analytical and statistical material presented in this volume is intended to serve as a constructive basis for the formulation and subsequent implementation of regional development policies for the Lake St. Clair Economic Region.

Preparation of the textual and tabular material was carried out in the Applied Economics Branch under the direction of Mr. O. M. Schnick. Supervision of research and general preparation of the survey manuscript was undertaken by Mr. R. H. Frank, Chief of the Industry Studies Section in this Branch, while staff members, particularly Mrs. D. Nikolarakos, Mr. L. Bodnar, Mr. K. Williams, Mrs. O. I. Mico and Mr. P. S. Atkinson made major contributions to the study by preparing the chapters in such fields as population and labour force, agriculture and manufacturing, physical geography, energy and the tourist trade. Mr. H. Hutchison and Mr. J. Heginbottom, with the assistance of Mr. G. Matthews, cartographer, University of Toronto, were responsible for the design and preparation of maps, charts and art work while other staff members assisted in the compilation of statistical tables and related computational work.

We wish also to thank various government departments, agencies and industrial organizations for their cooperation and help in securing information. Our appreciation is accorded to the Dominion Bureau of Statistics, the Office of the Development Council — St. Clair Region, the Ontario Departments of Agriculture, Highways and Tourism and Information as well as the Hydro-Electric Power Commission of Ontario.

September, 1967

Stuart W. Clarkson
Deputy Minister

INTRODUCTION

Situated at the crossroads of an extensive network of major transportation routes in close proximity to the United States, the Lake St. Clair Economic Region covers an area of 2,749 square miles between Lakes Huron, Erie and St. Clair and includes the Counties of Essex, Kent and Lambton in the southwestern corner of Ontario.

Settlement of the Region commenced in the early 1700's when the first white settlers of French origin located along the banks of the Detroit River. Despite the subsequent influx of predominantly English-speaking people, the permanent influence of the French element continues to be reflected in the ethnic structure of Essex County where over 21 per cent of the population is of French extraction. Today, an indigenous population of over 450,000 people represents about seven per cent of Ontario's total population and ranks as the third most densely populated Region in the Province.

The Region's favourable location relative to major market areas in Ontario and the United States was instrumental in the development of a broad complex of secondary manufacturing facilities. The excellent soils and favourable climate yield a wide range of agricultural products for processing while the deposits of crude oil initiated the development of an extensive petrochemical industry. In addition, a large complex of automotive and transportation equipment industries has been attracted to the Region as well as other industries producing a broad range of products including machinery, building materials, clothing, furniture and electrical and glass products.

Although a wide range of industries is located within the Region, four industrial groups account for 83 per cent of the regional manufacturing output and 70 per cent of the industrial employment. Of the four, the transportation equipment industry group comprises the largest portion, accounting for 28 per cent of the Region's manufacturing output and providing jobs to almost one-third of the industrial work force. The petroleum and coal products group ranks second in terms of output, with 20 per cent of the regional total; however, being highly capital-intensive, it

employs only 14 per cent of the manufacturing workers. The food and beverages group accounts for almost one-fifth of the output and the same proportion of workers, while the chemical and chemical products group accounts for 16 per cent of the output and 14 per cent of the industrial employment.

Favourable natural conditions, an increasing market demand for the area's agricultural products and the wide range of institutional facilities available to farmers are some of the major factors that have led to the present structure and high level of development of agriculture in the Region. The favourable soil and climatic conditions which prevail in Essex and Kent Counties and to a lesser extent in Lambton, permit the successful production of a wide variety of cash crops, such as winter wheat, corn, soybeans, tomatoes and sugar beets. While livestock production has gradually shifted from dairy cattle to beef cattle, the area devoted to pasture is continuously decreasing in favour of cash crops. Extensive use of agricultural machinery in many phases of farm operations has been increasing rapidly with the result that farms in the Region are now the most intensively mechanized in Ontario.

Although manufacturing and agriculture form the primary basis of the Region's economy, the tourist trade has become an increasingly important sector of economic activity during the last decade. Endowed with the warmest climate in Eastern Canada, miles of sandy beaches, an unusually rich historical heritage and a location which is readily accessible to millions of people in both Canada and the United States, the Lake St. Clair Region attracts thousands of tourists each year. Although tourist expenditures account for a relatively small proportion of the total regional income they nevertheless create a considerable number of employment opportunities. Reflecting the gradual decrease in the length of the average work week and the steady increase in the propensity to travel, the tourist industry is likely to occupy an even more prominent position within the regional economy over the next decade than is currently the case.

This report examines in detail the structure and historical background of the Region's economy on a sectoral basis and provides a comprehensive review of the underlying socio-economic fabric.



Digitized by the Internet Archive
in 2018 with funding from
Ontario Council of University Libraries

<https://archive.org/details/lakestclairregio00onta>

CONTENTS

PREFACE iii

INTRODUCTION iv

CONTENTS vii

PHYSIOGRAPHY 1

POPULATION 5

LABOUR FORCE, EARNINGS AND INCOME 14

AGRICULTURE 26

MINING, FORESTRY, FISHING AND CONSERVATION 47

ENERGY 53

MANUFACTURING 58

TRANSPORTATION AND COMMUNICATIONS 79

CONSTRUCTION, HOUSING AND HOUSEHOLD FACILITIES 93

TRADE 98

TOURIST TRADE 102

COUNTIES AND MUNICIPALITIES 111

CONCLUSION 127

STATISTICAL APPENDIX 129

vii

PHYSIOGRAPHY

As topography and geological structure have a significant impact on patterns of land use and settlement, a brief review of the physiographic and climatic features of the Region will provide a general background for the evaluation and interpretation of the regional economy. The Lake St. Clair Economic Region, the most southerly region of Canada, covers an area of 2,749 square miles between Lakes Huron, Erie and St. Clair, and includes the Counties of Essex, Kent and Lambton in the southwestern corner of Ontario.

The underlying rock formations, which were laid down in a huge continental basin some 400 million years ago, have little direct influence on the configuration of present landforms since more recent deposits have covered the rock-base. Although most of the Region is underlain by black shales (or compressed and hardened clays), Essex and part of Kent have a limestone bedrock.

The glacial deposits forming the present landforms are less complex than in other Regions of Ontario due to the fact that the Lake St. Clair Region was not too close to the various centres of continental ice-masses during the Ice Age, less than 10,000 years ago. The predominant surface features are gently undulating ground moraines or till plains, which were formed beneath the ice mass and then abandoned when the ice front retreated. Terminal moraines, consisting of unsorted glacial debris, form low ridges which mark the edge of the ice sheet. Parallel to the shore of Lake Huron in the northeast corner of the Region, the Wyoming moraine forms a broad ridge which marks the last advance of the Lake Huron ice-sheet. To the southeast the Blenheim moraine forms a 50-100 foot clay ridge, which similarly represents the limit of the last advance of ice from the Lake Erie centre.

The resultant flat nature of the Region was increased by post-glacial activity when melting ice raised the water-level of the Great Lakes to flood the surrounding areas. Existing slight elevations in the till plains were lowered due to wave-erosion, while depressions were filled up by shallow deposits of lacustrine sediments. Sands and gravels mark the

LAKE ST. CLAIR REGION ECONOMIC SURVEY

margins of these glacial lakes, with remnants of narrow wave-cut terraces or beaches fringing the former shore-line.

A forerunner of the Thames River covered a large area with a veneer of sand upon the clay floor after it had formed a delta where it entered the lake. However, subsequent river and marine activity have only slightly modified the topography of the Region. The most striking modification along the Lake Erie shore has been the development of sand spits: Rondeau Spit has been built up from the east, while Point Pelee juts straight out from the shore with sand accumulation by waves from both east and west.

In such a flat area, consisting largely of heavy clays, it is not surprising that drainage is rather poor. Swamps, however, are rare, and tile drainage-systems have appreciably improved the agricultural potential of the Region. Most of the area drains into Lake St. Clair via the Thames and Sydenham Rivers. Only the northeastern section drains into Lake Huron, largely through the Ausable River which also forms part of the Region's eastern boundary. Streams which flow directly into Lake Erie are short, but the shorecliffs of Lake Erie are heavily dissected by gullies. Within the Region the Thames River meanders over a wide floodplain while in the sandy area to the east it has cut a valley 50-100 feet deep. Due to its very low gradient which is less than 1 foot per mile, the river frequently overflows its banks causing spring floods which deposit a rich reddish alluvium over much of its valley.

Physically and climatically the Lake St. Clair Region is near the northern fringe of the American Corn Belt and has the mildest climate in Ontario, due to its southerly latitude, gentle relief, and continental location modified by the moderating influence of Lakes Erie, Huron, and St. Clair.

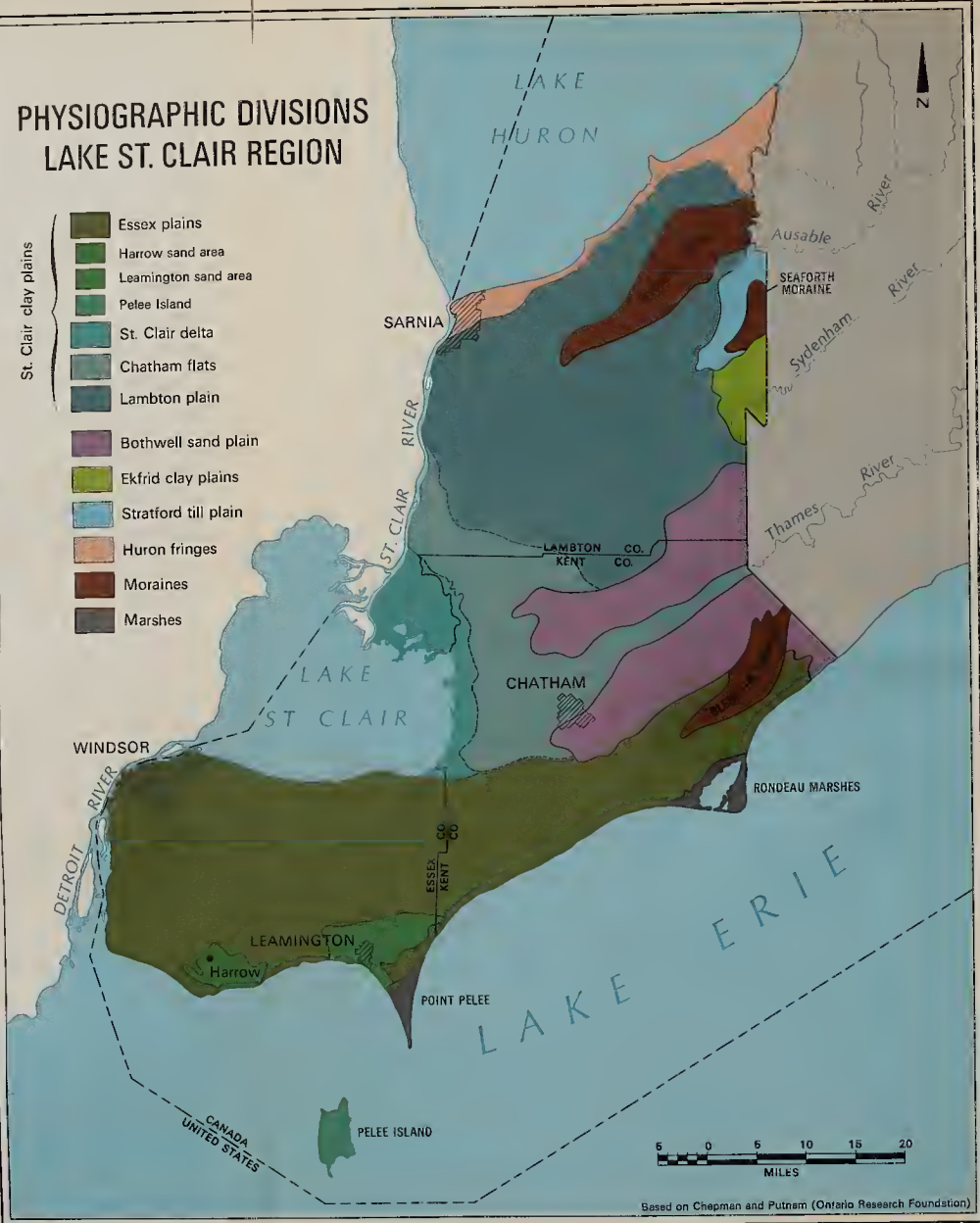
		Mean Monthly Average Temperature	Mean Monthly Maximum Temperature	Mean Monthly Minimum Temperature	Average Annual Precipitation	Average Annual Snowfall
Chatham	January	26.1°	31.9°	20.2°	30.44"	39.8"
	July	72.7°	82.9°	62.5°		
Sarnia	January	24.9°	31.0°	18.8"	28.50"	33.35"
	July	69.7°	79.4°	60.0°		

Although still below freezing point the mean January temperatures are not too severe, whereas the mean July temperatures are relatively high. Annual precipitation is about 28-34", with comparatively low snowfall in winter. There is a slight summer precipitation maximum — 52 per cent of the precipitation at Chatham falls between April and September — and the highest amount is generally recorded in May. The Lake St. Clair Region has one of the longest frost-free periods in Ontario, and

PHYSIOGRAPHIC DIVISIONS LAKE ST. CLAIR REGION

St. Clair clay plains

- Essex plains
- Harrow sand area
- Leamington sand area
- Pelee Island
- St. Clair delta
- Chatham flats
- Lambton plain
- Bothwell sand plain
- Ekfrid clay plains
- Stratford till plain
- Huron fringes
- Moraines
- Marshes



Based on Chapman and Putnam (Ontario Research Foundation)

PHYSIOGRAPHY

this is especially significant for agriculture. Spring frosts end, on average, by May 6th at Chatham, whereas autumn frosts do not begin until about October 15th, giving an average frost-free period of 162 days per year. Over 56 years, this frost-free period has ranged from a maximum of 189 days to a minimum of 128 days.

On the basis of predominant landforms, the Lake St. Clair Economic Region is subdivided into the physiographic regions and sub-regions shown in the accompanying map.

The Essex Plain, covering almost all of Essex county and the adjacent southwestern part of Kent County, is a till plain, which has been modified by post-glacial wave erosion and lake-deposition. Although the area is level, slight surface undulations create a certain amount of natural drainage which has been substantially improved by artificial drainage. A semi-bog type of soil, the Brookston Clay Loam, which developed under moisture-loving trees is the characteristic soil. Agriculture in this area is highly mechanized, and tends to specialize in corn and soybean production, although alfalfa, wheat, oats, barley, beans, and sugarbeet are also important. Livestock is generally limited except along the better drained strips which have rather acid soils and lack soluble soil nutrients.

Although the limestone floor outcrops at several points, Pelee Island is a level clay plain, like the rest of Essex County; at its highest point it is only 38 feet above mean lake level. Since the island is isolated from markets, soybeans are grown instead of commercial truck crops which might be expected on the limestone areas. In the east the Blenheim moraine forms a rolling clay ridge 50-100 feet above the surrounding plain, and general mixed farming tends to be characteristic. The moraine is fringed by gravel terraces, which meet at Blenheim and extend southwest to the lake-shore; specialized farming is found on this well-drained area, with beans, tobacco, peaches, cherries and apples being commercially important. A smaller sand and gravel morainic dome rises 100 feet above the surface near Leamington and the well-drained light soils of the surrounding area are ideal for truck crops. Sandy soils forming a slightly elevated area around Harrow were laid down as a group of shallow-water sand bars in the post-glacial lake. Once a tobacco centre, Harrow now specializes in truck and canning crops, particularly asparagus, tomatoes and sweet corn. Recently formed sand spits extend into Lake Erie at the Rondeau Spit and Point Pelee, and when drained, the silt-loam soils of the marshes behind the sand dunes, form important onion-producing areas.

Although essentially similar to the Essex Plain sub-region, the Lambton Plain has a shallow veneer of lacustrine clay over the till formation, but has a better natural drainage. As a result there are more woodlots and more pasture farms, particularly on the moraines and the narrow extension of the Stratford Till Plains, but also fewer areas of

LAKE ST. CLAIR REGION ECONOMIC SURVEY

corn, beans and sugarbeets.

Separating these two modified till plains is a flat clay plain, the Chatham Flats. The lower part is extremely level and is composed of deep lake-deposited clays, but in Chatham Township a shallow surface layer of sand covers the clay. South and east of the city of Chatham, beds of silt appear, while west of the city, black muck has accumulated in two large tracts and the clay is also interrupted by a few sandy spots. The development of this region was delayed until municipal ditches were installed, but is now an important area of cash crops — chiefly corn, beet, soybeans, tobacco, peas and other canning crops, while livestock are secondary but still significant. This fertile area is unfortunately vulnerable to spring floods and frequent summer droughts, but due to the relative scarcity of livestock and the dominance of row crops the chief agricultural problems are related to the renewal of the organic content and the maintenance of the granular structure of the soil.

The western edge of another area of clay soils, the Ekfrid Clay Plains of the Lake Erie Economic Region, extends into the east of the Region; this area also grows corn, but tends to place more stress upon pastureland for beef cattle.

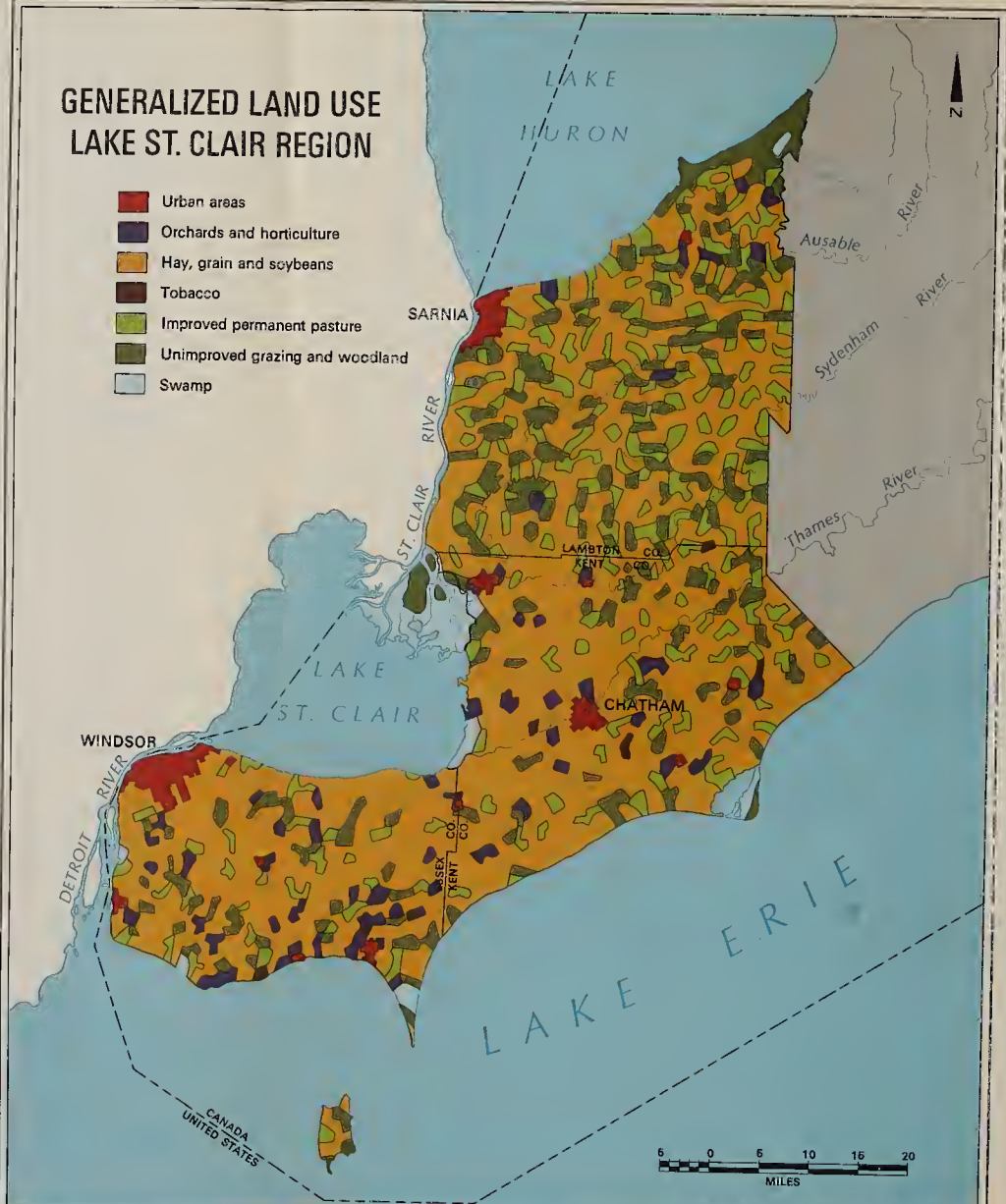
The St. Clair Delta, found at the entrance to Lake St. Clair on the Canadian side of the South Channel, forms a bird's-foot pattern of sand or silt islands, distributary channels and marshes, but its 64 square miles are used only for pastures.

The Bothwell Sand Plain, to the east of the Region, represents part of an ancient delta in a post-glacial lake. Sands are spread thinly over a clay floor so that this area tends to have poor drainage with low-grade soils. The wetter areas remain wooded, but the sandy loam soils could become valuable for truck or canning crops if a demand for these arose in this location.

Sands again predominate in the Huron Fringes to the north of the Region. After making a hairpin turn at Grand Bend, the Ausable River flows the length of the Ipperwash sand dunes to Port Franks before entering Lake Huron. Sandy beaches continue along the Lake Huron shore to Point Edward at the mouth of the St. Clair River. The dunes generally form a belt 1½ miles wide, and behind their protective cover lagoons and marshes have formed. In the east, much of the Thedford marsh has been drained and developed for celery, onions and other special crops, while the Blackwell marsh to the west is also used horticulturally.

GENERALIZED LAND USE LAKE ST. CLAIR REGION

- Urban areas
- Orchards and horticulture
- Hay, grain and soybeans
- Tobacco
- Improved permanent pasture
- Unimproved grazing and woodland
- Swamp



Based on Atlas of Canada, land use of Southern Ontario

POPULATION

Historical Background

The Lake St. Clair Region, located at the southernmost border of Ontario, was first settled by American Indians whose villages were scattered along the narrowest part of the Detroit River and over Southern Ontario generally.

In the County of Essex the first white settlers were of French origin and they located along both banks of the Detroit River in connection with a French Fort built at Detroit in 1701. These early inhabitants remained after the British took over the Fort and their influence in Essex is reflected even today where over 21 per cent of the County's population is of French background. The County obtained its name from Governor Simcoe in 1792 and received a considerable influx of English-speaking population at the close of the American Revolution when Detroit was handed over to the Americans. Essex soon acquired County status in 1853 and its population, which in 1871 was estimated to be 80 per cent rural, is now some 85 per cent urban due mostly to the increasing industrialization of the Windsor area.

Known as "The Southern Gateway of Canada", Windsor was incorporated as a village in 1854, as a town in 1858 and became a city in 1892. Its strategic location opposite growing Detroit made it a railway terminal and consequently, its population increased rapidly and placed Windsor far ahead of its neighbours, Sandwich and Amherstburg. Population growth was greatly stimulated with the advent of the automotive industry and the founding of Ford City in 1904, which became the City of East Windsor in 1929. Subsequently, the adjoining "Border Cities" of East Windsor, Walkerville, Windsor and Sandwich were amalgamated as the City of Windsor in 1935. Today Windsor is well known as a centre of automobile manufacture and its development has been largely due to its locational advantage of both land and water routes and the existence of Detroit across the border as the greatest automobile manufacturer in the world.

Kent County was originally created in 1792 and encompassed much

LAKE ST. CLAIR REGION ECONOMIC SURVEY

more territory than its present boundaries which were established in 1850. Chatham, the County seat, was surveyed as early as 1795 and the first log cabin was built around 1800, making it one of the earliest settlements in Western Ontario. Chatham obtained city status in 1895 and is now an industrial community as well as the centre of a prosperous agricultural area with a county population which is over 43 per cent rural.

Originally all three counties in the Lake St. Clair Region were included in the Western District established in 1800. Although settlers came to the Lambton area after 1800, land surveys had to await a treaty with the Chippewa Indians in 1827. British immigrants began to arrive soon after the treaty and retired officers of both army and navy settled along the riverfront, while tenant farmers and labourers opened up the interior. With the abolition of the Western District in 1849, Lambton became a provisional County and was named after Lord Durham (John George Lambton). Among the pioneers of Lambton County was the Hon. Malcolm Campbell of Perth, Lanark County, who founded Sarnia in 1833 and attracted Lanark settlers to this area.

Sarnia which was incorporated as a town in 1856 and as a city in 1914, remained a small oil centre until the establishment of Government-owned Polymer Corporation in 1942. Since then, other major chemical plants and oil refineries have followed rapidly and with the opening of the St. Lawrence Seaway in 1959, Sarnia developed into an important international port and experienced accelerated population growth.

Present Population and Growth

From the sparsely populated area of the 18th century, Lake St. Clair has now grown to 449,776 people or 7.2 per cent of the provincial population taken in the 1961 Census. This figure represents a population density of 163.6 persons per square mile, ranking as the third most heavily populated Region in the Province. Within the Region, the heaviest concentration of population is in Essex County where 57.4 per cent of the regional total resides. Lambton County accounts for 22.7 per cent, while Kent has the remaining 19.9 per cent of the population. Essex with a density of 365.2 persons per square mile is the sixth most heavily populated County in

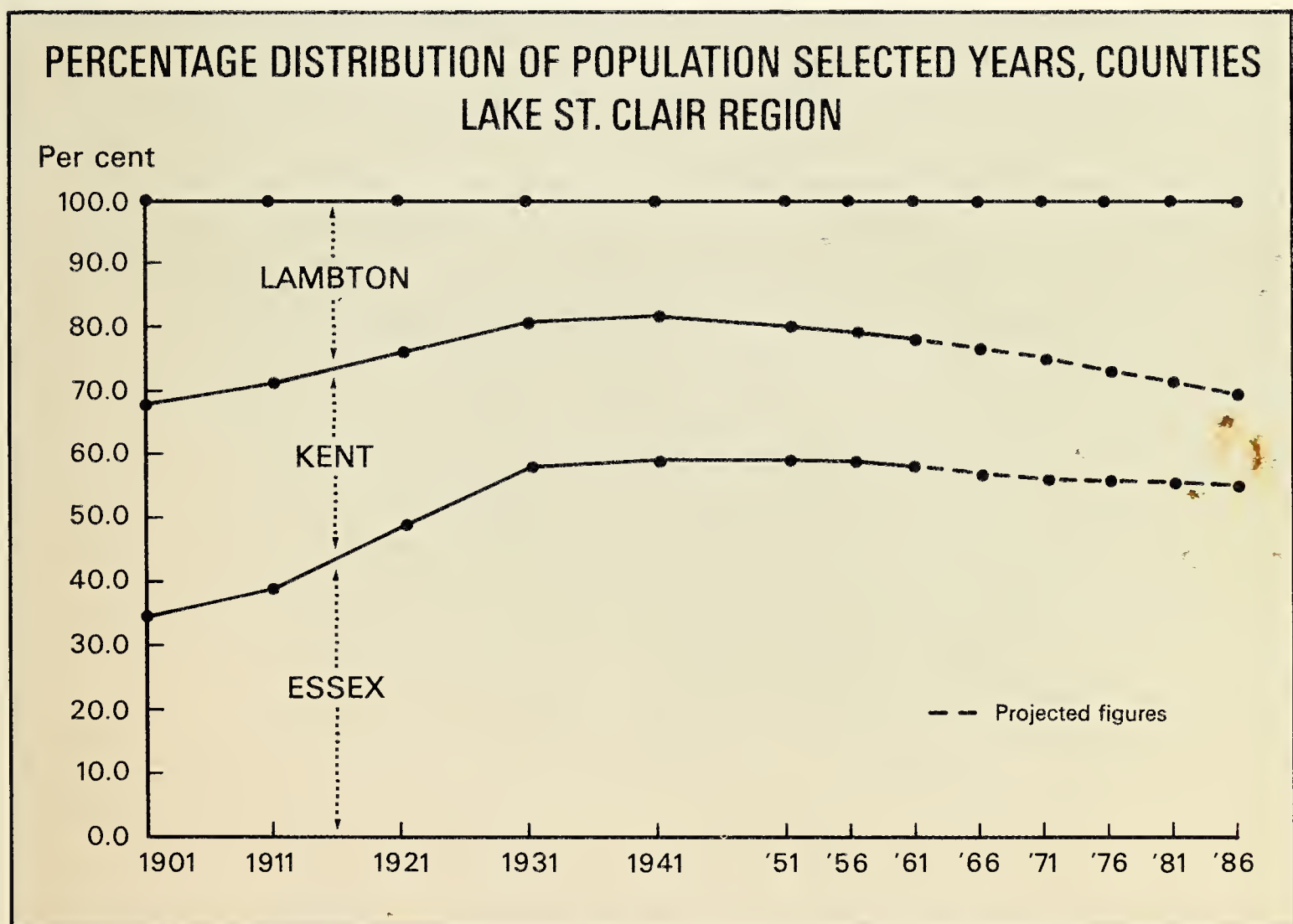
POPULATION DENSITY, COUNTIES, LAKE ST. CLAIR REGION, 1951, 1956 AND 1961			
	Population Density in persons per square mile		
	1951	1956	1961
A-Border			
Essex	307.1	349.2	365.2
Kent	86.2	93.0	97.4
Sub-Total	182.3	204.5	213.9
B-Lambton			
Lambton	66.7	80.0	90.9
Total, Region	135.0	153.6	163.6
Total, Ontario	13.4	15.7	18.1

POPULATION

Ontario, while Kent and Lambton are well above the Provincial average of 18.1 persons per square mile.

During the present century, the growth rate of population in the Lake St. Clair Region has varied markedly from decade to decade, ranging from a negligible growth during the 1900's to a high of 2.63 per cent per annum during the 1920's and again from 1951 to 1956. Average growth per annum, however, during the period 1901-1961 has been 1.63 per cent which is just below the 1.75 per cent growth rate for the Province as a whole.

A more detailed analysis of individual counties within the Region reveals even greater variation in the population growth pattern. Essex, for example, recorded the highest rate in the Region during the 1910's and 1920's when annual population growth reached 4.25 per cent and 4.50 per cent, respectively. This growth reflected the rapid development of the automotive industry in the Windsor area during this period. In the 1930's, however, growth per annum dropped sharply to 0.88 per cent due to the generally low birth rates of the 30's. During the next twenty years population increased at 2.00 per cent annually, but remained below the Provincial rate of 2.50 per cent, as a result of the low growth rate in the 1956-1961 period with the reduction in automobile output and the consequent withdrawal of many people from this area.



Prior to World War II, population growth in the neighbouring Counties of Kent and Lambton was very small. Since 1941, however, Kent has experienced a growing industrial activity stimulated by the economic

LAKE ST. CLAIR REGION ECONOMIC SURVEY

expansion in Essex County and its population subsequently increased at an average rate of 1.50 per cent annually. With the expansion of the chemical industry in the Sarnia area, Lambton recorded the highest growth rate in the Region over the 1941-1961 period. The average for the twenty years was 3.00 per cent annually which was higher than the population growth in the Province as a whole. The highest growth rate occurred during 1951-1956 when population increased at 3.75 per cent per annum as a result of the 1953 extension of the Interprovincial Pipeline to Sarnia and the spectacular expansion of the petrochemical industry employing an increasing number of people.

RATE OF POPULATION INCREASE, LAKE ST. CLAIR REGION AND ONTARIO		
	Annual Growth of Population Region %	Ontario %
1901-1911	Nil	1.50
1911-1921	2.00	1.50
1921-1931	2.63	1.63
1931-1941	0.71	1.00
1941-1951	2.25	2.00
1951-1956	2.63	3.25
1956-1961	1.25	2.88
1951-1961	2.00	3.13
1941-1961	2.13	2.50
1901-1961	1.63	1.75

Natural Increase and Migration

The population growth of an area is influenced by natural increase and migration accompanied by economic development and industrialization. After the war, there was a sharp increase in population as the birth rate rose in response to a basic change in social values whereby people married at an earlier age and tended to have larger families while the death rate decreased with a higher life expectancy due to improvements in medical care as well as higher standards of living. Since 1956, however, there has been a sharp decline in the birth rate from 26.6 per thousand of population to 24.1 in 1963 in the Province as a whole, and from 27.8 to 23.4 in the Lake St. Clair Region. These lower birth rates can be explained partly by the decline in the percentage of women between the ages of 15 to 45, which is the main child bearing group. In 1951, 44.0 per cent of the Region's female population was in this group, whereas by 1961 the ratio had fallen to 39.6 per cent of total female population, reflecting the low birth rates of the 1930's and the war years. An additional reason for the sharp decrease of the birth rate is the decline of marriages per thousand of population since 1956 when the marriage rate dropped from 8.6 to 7.0 by 1963 in both the Lake St. Clair Region and the Province as a whole. The improvement and wider acceptance of birth control methods has been an

POPULATION

important factor contributing to the continuing decline of the birth rate in recent years.

Although life expectancy has increased with improvements in health conditions, the death rate in the Lake St. Clair Region has risen from 8.5 per thousand of population in 1956 to 9.0 in 1963 as a result of a heavier concentration of people in the 65 and over age group. Whereas in 1951, 7.6 per cent of the population fell in this group, by 1961 the ratio had increased to 8.5 per cent of total population. In comparison, the death rate in Ontario declined from 8.7 to 8.3 per thousand of population during the same period, while the proportion of total population in the 65 and over age group dropped from 8.7 per cent in 1951 to 8.1 per cent by 1961.

Relative rates of population growth are also influenced to a large extent by the rate of migration from abroad as well as inter-county and inter-provincial movements. Although high birth rates and low death rates will increase the population of an area in the short-run, people entering the labour force will move to more developed areas if the population growth is not accompanied by an expansion in economic activity.

During the decade 1951-1961 the Region's population increased by some 21.2 per cent with natural increase accounting for 20.7 per cent, while net migration made up the remaining 0.5 per cent. Among the Counties, however, there have been sharp variations between the two factors affecting population. In Essex there was a net emigration of 1.5 per cent whereas natural increase was some 20.4 per cent resulting in an overall growth of 18.9 per cent over the decade. As was noted earlier in the chapter, a considerable withdrawal of people occurred in the 1956-1961 period from the Windsor area, when 4.5 per cent of the 1956 County population emigrated.

Kent County also reveals some interesting results over the 1951-1961 period when net emigration was as high as 5.8 per cent of the 1951 population base. This decline, however, was offset by a natural growth of 18.8 per cent, thus increasing the population by some 13.0 per cent over the decade. The net emigration from this area may be explained by the fact that it is mostly an agricultural county and although it has high birth rates

FACTORS IN THE GROWTH OF POPULATION, COUNTIES, LAKE ST. CLAIR REGION, 1951 TO 1961 AND 1956 TO 1961						
	1951—1961			1956—1961		
	Actual Increase	Natural Increase	Net Migration	Actual Increase	Natural Increase	Net Migration
A—Border						
Essex	41,068	44,350	–3,282	11,317	22,491	–11,174
Kent	10,299	14,885	–4,586	4,065	7,491	– 3,426
Sub-total	51,367	59,235	–7,868	15,382	29,982	–14,600
B—Lambton						
Lambton	27,171	17,567	9,604	12,192	9,399	2,793
Total, Region	78,538	76,802	1,736	27,574	39,381	–11,807

LAKE ST. CLAIR REGION ECONOMIC SURVEY

there tends to be an outflow of young people to other parts which offer better opportunities in industry. Viewing the population growth of the Border Sub-Region as a whole, Essex County which accounts for 74.3 per cent of the total had the largest impact on its growth while agricultural Kent, accounting for 25.7 per cent of the population, had a smaller effect.

Lambton, on the other hand, has experienced a population growth resulting from both natural increase and net migration. Over the 1951-1961 period population has grown by 36.2 per cent with natural increase accounting for 23.4 per cent while net migration was responsible for the remaining 12.8 per cent. About 55.1 per cent of this population increase occurred in the first half of the inter-censal period.

Rural-Urban Distribution

Population growth accompanied by accelerated industrialization has resulted in an advanced urbanized economy while at the same time rural population has declined with increased productivity in agriculture. In the 1961 Census, the proportion of population living in urban centres was 75.4 per cent of the total population while rural population accounted for the remaining 24.6 per cent. Urban population increased by 25.8 per cent between 1951 and 1961 whereas rural population rose by 8.8 per cent over the same period. In actual figures, the urban population in 1961 stood at 338,974 compared with 269,412 in 1951 while the corresponding figures for the rural population were 110,802 and 101,826, respectively.

The Border Sub-Region was by far the more urbanized area in 1961 with 77.8 per cent of total population residing in urban centres while the remaining 22.2 per cent lived in rural areas. Within the Sub-Region, Essex was the more urbanized County with some 85.1 per cent urban population and 14.9 per cent rural, whereas, in Kent only 56.8 per cent of the population lived in urban centres and 43.2 per cent in rural areas. However, Kent County has recorded a growth of 32.9 per cent in its urban population over the 1951-1961 period accompanied by 5.6 per cent decline in the rural population. Essex has shown a more balanced increase in rural-urban population, the growth amounting to 15.5 per cent in the rural sector and 19.5 per cent in urban population.

During the same period Lambton County has become increasingly urbanized with a growth of 44.5 per cent in its urban population. The proportion of the urban population in the County has increased from 63.2 per cent in 1951 to 67.1 per cent in 1961. Rural population as well has shown the largest growth in the Region, with an overall increase of 22.1 per cent over the decade, while its share of total population dropped from 36.8 per cent in 1951 to 32.9 per cent by 1961.

The Windsor Metropolitan area and Sarnia Urban area were the two major agglomerations of population accounting for some 56.6 per cent of the regional population in 1961. Total population of the Windsor Metropolitan area stood at 193,365 in 1961, showing an increase of 18.2 per cent

POPULATION

over the previous decade. As more people moved to the suburbs, however, Windsor City proper decreased by 4.7 per cent from 120,049 in 1951 to 114,367 in 1961. Annexation of the Towns of Riverside and Ojibway and portions of the Townships of Sandwich East, Sandwich West and Sandwich South effective January 1, 1966, have increased the population of Windsor City proper, however, by a considerable number. The Sarnia Urban area registered a growth of 51.8 per cent from 40,366 in 1951 to 61,293 in 1961, while Sarnia City showed an increase of 46.9 per cent from 34,697 to 50,976 over the same period. Both Metropolitan Windsor and Sarnia Urban areas displayed a more rapid growth in the 1951-1956 period when population increased by 13.6 per cent and 27.5 per cent, respectively, as compared with 4.0 per cent and 19.1 per cent between 1956 and 1961.

Chatham City, another large centre in the Region, showed population net gain of 40.6 per cent from 21,218 people in 1951 to 29,826 in 1961. The largest increase took place between 1956 and 1961 when population growth amounted to 34.0 per cent as compared with 4.9 per cent between 1951 and 1956.

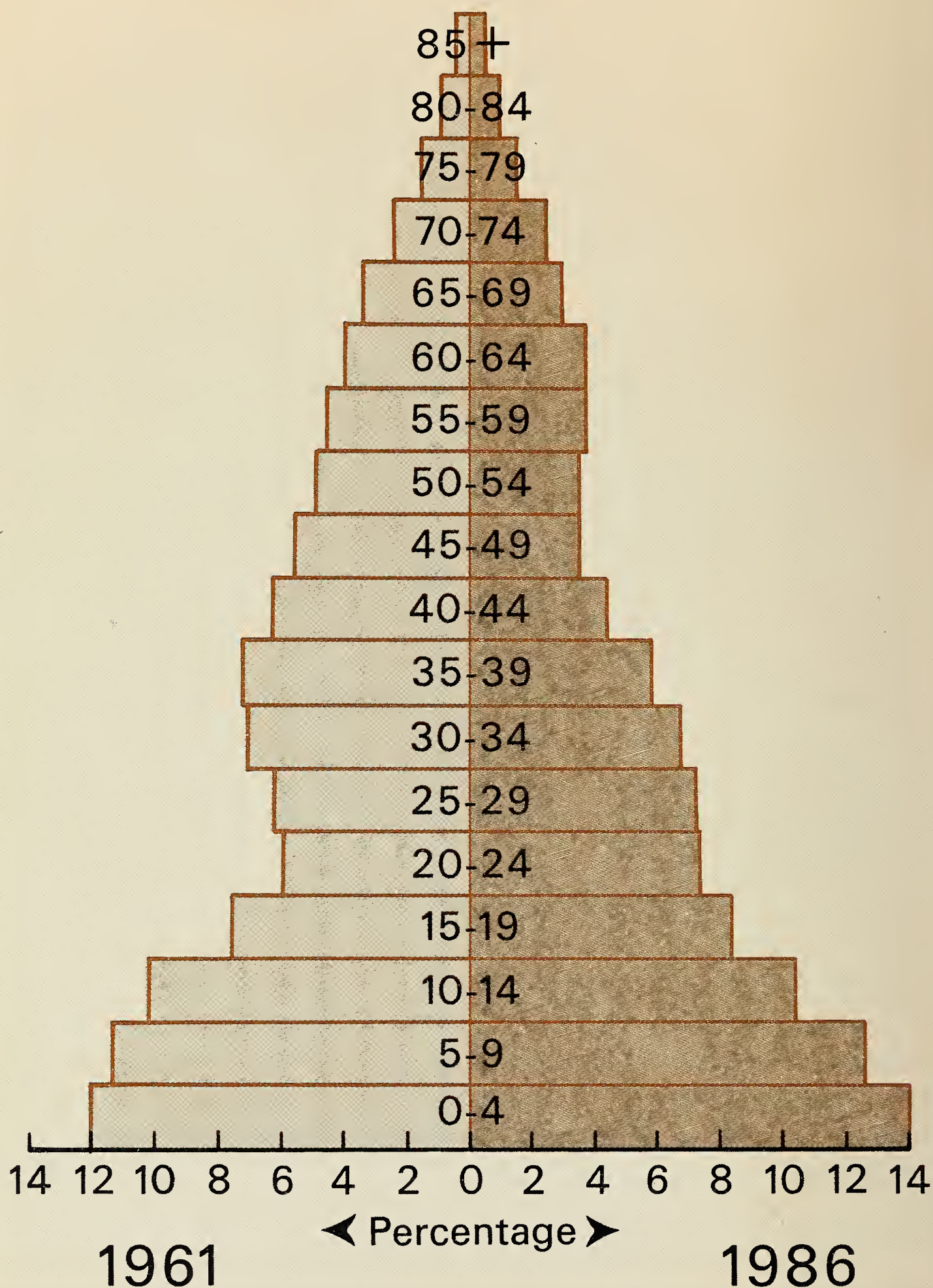
POPULATION OF INCORPORATED CITIES, TOWNS AND VILLAGES OF 5,000 AND OVER, 1951 TO 1961				
	1951	1956	1961	% change 1951—1961
Chatham	21,218	22,262	29,826	+40.6
Leamington	6,950	7,856	9,030	+29.9
Riverside	9,214	13,335	18,089	+96.3
Sarnia	34,697	43,447	50,976	+46.9
Wallaceburg	7,688	7,892	7,881	+2.5
Windsor	120,049	121,980	114,367	-4.7

Age Distribution

Demographic growth in the Region has also changed the distribution of population falling within the various age groups. For instance, the percentage of total population in the 5 to 19 age category, which may be considered as the main school age group, increased from 24.0 per cent in 1951 to 28.8 per cent in 1961. While the working age group, 20 to 64 years of age, declined from 56.6 per cent to 50.6 per cent over the decade, the 65 and over age category increased from 7.6 per cent to 8.5 per cent with the under five age class remaining virtually unchanged.

The median age of population taken in the 1961 Census is estimated at 28 years which is roughly the same as that for the Province as a whole and although there is not too much variation between the Region and the Province in the composition of the age groups, there is a slight difference in the 20 to 64 working age group which accounts for 52.6 per cent of the Provincial population compared with 50.6 per cent for the Region. The other notable deviation is in the 5 to 19 age group where the respective figures are 27.3 per cent and 28.8 per cent.

AGE DISTRIBUTION OF POPULATION LAKE ST. CLAIR REGION 1961 AND 1986 (PROJECTED)



Within the Region, however, there is marked differentiation in the age distribution of the population. The under five age group accounts for some 11.9 per cent of the population in Essex, 12.0 per cent in Kent and 12.7 per

POPULATION

cent in Lambton, while the respective shares in the school age category are 28.4 per cent, 29.1 per cent and 29.5 per cent. In the working age class, Essex has the highest proportion of the population with some 51.1 per cent, while in Kent the same age group accounts for 49.7 per cent and 49.9 per cent in Lambton. The relative shares of population falling in the 65 and over group are 8.6 per cent, 9.2 per cent and 7.9 per cent, respectively.

Projections

As recent growth patterns have been associated with industrial expansion and urbanization it is reasonable to assume that the same relationship will continue in the future. In estimating the level of immigration, however, there are certain limitations due to unpredictable factors which have a strong bearing on the rate of migration. Birth and death rates are more stable variables and unless we experience drastic changes in human attitudes a continuation of present trends during the forecast period has been assumed. It is also likely that industrial areas will continue to gain from immigration and since Ontario is expected to broaden its manufacturing base it is estimated that it will receive some 10,000 to 30,000 immigrants per annum while in forecasting regional population, a net internal migration of 2,000 to 6,000 people annually has been assumed.

Recent demographic studies suggest that the Region's population will reach some 760,000 to 798,000 by 1986 depending on the rate of immigration while the provincial population will range from 10.4 million to 11.2 million. The relative share of the Region's population in the provincial total is expected to remain virtually unchanged, ranging between 7.3 per cent and 7.1 per cent as compared with 7.2 per cent in 1961.

Under the assumption of a maximum net internal migration of 6,000 people per annum, it is estimated that the under five and 5 to 19 age groups will account for a larger proportion of the total regional population than in the past. In 1961 they constituted 12.1 per cent and 28.8 per cent, respectively, whereas by 1986 the relative shares are anticipated to be 13.9 per cent and 31.2 per cent of the projected population. The working age group, 20 to 64 years of age, is expected to decline appreciably from 50.6 per cent in 1961 to 46.5 per cent by 1986, while the older age category will remain virtually the same.

It is important to remember, however, that these projections are tenuous and have been made on the basis of past trends and their continuation in the future.

LABOUR FORCE, EARNINGS AND INCOME

Growth Pattern of the Labour Force

The number of people comprising the labour force in the Lake St. Clair Region totalled 161,005 or 6.7 per cent of Ontario's total work force in 1961. This figure represented 53.9 per cent of the population 15 years and over while the comparable figure for Ontario stood at 56.6 per cent. About 77.3 per cent of the total labour force worked in the Border Sub-Region while Lambton Sub-Region was responsible for the remaining 22.7 per cent. The densely populated County of Essex with its industrial economy accounted for 57.3 per cent of the work force while agricultural Kent absorbed 20.0 per cent of the labour market supply.

Since 1941 the Region's labour force has increased at an average annual rate of 1.75 per cent which is substantially lower than the 2.13 per cent growth per annum for the Province as a whole. During the 1940's, labour force in the Region expanded at 2.50 per cent per annum and increased from 114,373 in 1941 to 146,077 in 1951 or 7.7 per cent of the Provincial total. This growth was well above the 1.88 per cent in Ontario as a whole; however, during the 1950's the labour force increased at 1.00 per cent annually while Ontario experienced a growth of 2.50 per cent per year. This is partly explained by the withdrawal of many people from Essex County with a reduction in automobile production in the Windsor area. In fact, the Border Sub-Region experienced a negligible growth of 0.58 per cent annually over the 1951-1961 decade while Lambton increased at an annual rate of 2.63 per cent with the expansion of the petrochemical industry in and around the Sarnia area. Examining the twenty-year period, Essex County's labour force increased at 1.63 per cent annually while Kent and Lambton Counties experienced growth rates of 1.13 per cent and 2.50 per cent per annum, respectively.

Growth of the labour force reflects to a large extent the rapid post-war population increase in Ontario. The main factor, however, influencing the labour market supply is the population in the working age category. As a large number of immigrants were in the younger working-

LABOUR FORCE, EARNINGS AND INCOME

age group, the market supply was greatly altered by Ontario's population increase during the post-war period and particularly in the 1950's.

Population 15 years and over has grown at an average annual rate of 1.38 per cent in the Region and 1.88 per cent in Ontario over the 1941-1961 period. During the 1940's, the growth rate in the Lake St. Clair Region was 1.88 per cent per annum higher than the 1.63 per cent growth experienced by the Province. In the 1950's, however, population 15 years and over increased at an annual rate of 1.00 per cent while in Ontario it expanded at 2.25 per cent annually. The labour force, in both the Region and the Province, increased more rapidly than the population 15 years and over during the 1941-1961 period. An important factor in this higher growth is the continuing trend of more women entering the labour force.

ANNUAL GROWTH OF LABOUR FORCE, LAKE ST. CLAIR REGION, 1941-1961*						
	Population 15 Years and Over			Labour Force		
	Total	Male	Female	Total	Male	Female
	-----	-----	-----	-----	-----	-----
A-Border						
Essex	1.38	1.13	1.63	1.63	0.88	4.25
Kent	0.88	0.75	1.00	1.13	0.42	4.00
Sub-total	1.25	1.00	1.50	1.50	0.75	4.25
B-Lambton						
Lambton	2.13	2.13	2.25	2.63	2.00	5.25
Total, Region	1.38	1.25	1.63	1.75	1.00	4.50
Total, Ontario	1.75	1.75	2.00	2.13	1.63	4.00
*For 1941 and 1951, Census statistics show population 14 years and over, in and not in labour force.						

During the early part of this century large families and greater preparation of food in the home kept the majority of women out of the labour force. With labour saving devices at home and increasing use of pre-cooked foods, however, domestic work has become considerably lighter and consequently many women are free to enter the labour force. This trend is reinforced by the growing importance of the service industry in which the majority of women are employed and the continuing urbanization. In addition to the above, is the fact that wartime shortages compelled many women to enter the labour force, and while some left the work force after the war, many continued to work.

The female sector of the labour force has grown markedly over the 1941-1961 period averaging 4.50 per cent annually in the Region and 4.00 per cent per annum in Ontario. These growth rates are considerably higher than the increase experienced in the female population 15 years and over during the period under discussion. In fact, population 15 years and over advanced at 1.63 per cent annually in Lake St. Clair and 2.00 per cent per year in Ontario during the period extending from

LAKE ST. CLAIR REGION ECONOMIC SURVEY

1941 to 1961. Within the Region, Lambton County recorded the highest growth averaging 5.25 per cent per year while female labour force in Essex and Kent increased at 4.25 per cent and 4.00 per cent per annum, respectively.

In 1961, the number of women in the regional labour force stood at 43,101 or 26.8 per cent of the total compared with 17,913 in 1941 or 15.7 per cent of the labour market supply. In contrast, the female sector of the total Provincial labour force amounted to 692,448 or 28.9 per cent in 1961 growing from 318,139 or 20.4 per cent of the total in 1941. Statistics for 1951 indicate that female participation accounted for 19.8 per cent of the labour force in Lake St. Clair while in the Province as a whole the respective proportion was 23.6 per cent.

LABOUR FORCE BY SEX, LAKE ST. CLAIR REGION, 1961			
	Total	Male	Female
A-Border			
Essex	92,279	66,575	25,704
Kent	32,118	23,799	8,319
Sub-total	124,397	90,374	34,023
B-Lambton			
Lambton	36,608	27,530	9,078
Total, Region	161,005	117,904	43,101
Total, Ontario	2,393,015	1,700,567	692,448
Region as % of Ontario	6.7	6.9	6.2

Although the number of male workers in the Region has increased in absolute terms from 96,460 in 1941, to 117,221 in 1951 and subsequently to 117,904 in 1961, the relative share of total labour force declined from 84.3 per cent to 80.2 per cent and 73.2 per cent, respectively during the Census years. Comparable figures for Ontario totalled 1,244,987, 1,441,444 and 1,700,567 people or 79.6 per cent, 76.4 per cent and 71.1 per cent.

Census data for the Region indicate that the proportion of female population 15 years and over in the labour force increased from 21.8 per cent in 1951 to 28.7 per cent by 1961 while male participation dropped from 85.4 per cent to 79.3 per cent during the same period. A similar trend was observed in the Province as a whole, the relative female participation rates being 26.1 per cent in 1951 and 32.6 per cent in 1961 whereas the proportion of male population 15 years and over in the labour force declined from 84.2 per cent in 1951 to 80.7 per cent in 1961. An important reason for the decline in male participation is the continuing trend to a more extended period of formal education which affects the younger age group. Although this factor applies to women as well, it is more pronounced in the male population who normally remain in the labour market for a longer part of their lives. In addition, the retirement age is declining and thus the older age group active in the

LABOUR FORCE, EARNINGS AND INCOME

labour force has decreased.

Projections

Recent studies made by the Office of the Chief Economist on labour force projections have been based on population estimates in the Province and are tentative since they have been made on the basis of past trends and their continuation in the future.

Based on these estimates, it is expected that the Region's total labour force will reach some 208.2 to 215.7 thousand people by 1976 depending on the rate of immigration, whereas total Provincial work force will range between 3,108.8 and 3,273.1 thousand people. The relative share of the Lake St. Clair labour force in the Provincial total is expected to remain virtually the same fluctuating between 6.7 per cent and 6.6 per cent as compared with 6.7 per cent in 1961.

Assuming a maximum net internal migration of 6,000 people per annum, it is estimated that the female labour force will account for a larger proportion of the regional total than in the past. By 1976 it is expected that 29.4 per cent of regional labour force will be represented by the female sector while the remaining 70.6 per cent will come from the male population. In 1961, they constituted 26.8 per cent and 73.2 per cent, respectively. Labour force taken as a proportion of the population 15 years and over will continue to rise in the female sector increasing from 28.7 per cent in 1961 to 31 per cent by 1976 while the comparable proportion of male workers will decline from 79.3 per cent in 1961 to 73 per cent by 1976.

LABOUR FORCE AS A PER CENT OF POPULATION 15 YEARS AND OVER, LAKE ST. CLAIR REGION, 1961 AND 1976*						
	Male		Female		Total	
	1961	1976	1961	1976	1961	1976
	----- % -----					
15-24	59.5	55	37.1	35	48.3	45
25-44	95.8	95	31.2	34	63.1	64
45-64	90.5	89	29.7	34	60.7	62
65 +	32.8	26	7.0	7	19.3	16
Total	79.3	74	28.7	31	53.9	52
*Based on assumed net migration of 30,000 per annum to Ontario and a net internal migration of 6,000 per annum.						

The continued expansion of the trade and service industries and their increasing share in gross national output will attract more women to the work force. The proportion of women in the labour force in the 15-24 age group will tend to decline as more women will attend formal training programs while the proportion of women in the 25-64 age group will rise, particularly the 45-64 age category. Many women in this age group will have raised their children and a large number will enter the labour market while the proportion of women in the 65 and over group

LAKE ST. CLAIR REGION ECONOMIC SURVEY

in the work force will remain practically unchanged.

Male participation in the 15-24 age group will decline as well with an increasing number of people attending school and post-secondary institutions. The 25-64 age group will remain virtually the same while the 65 and over category will decline with earlier retirement age and rising pension funds.

Industry Divisions

The service industries and other tertiary sectors including transportation, trade, finance, public utilities, government services and other related economic activities were the largest regional employer in 1961 absorbing some 78,399 people or 48.7 per cent of total labour force while some 47,934 or 29.8 per cent of the total were employed in manufacturing. Agriculture and construction engaged 20,145 and 10,189 people respectively, equivalent to 12.5 per cent and 6.3 per cent of the labour market supply.

Some 39.2 per cent of the male labour force was employed in the service industries with 34.9 per cent and 14.5 per cent engaged in manufacturing and agriculture, respectively. Similarly, the largest proportion of the female labour force was employed in the service industries group accounting for 74.9 per cent of the total while 15.8 per cent and 7.0 per cent worked in manufacturing and agriculture.

Reviewing the three largest centres in the Lake St. Clair Region, Windsor engaged 68,659 people or 42.6 per cent of the 1961 regional labour force while the relative shares of Sarnia and Chatham were 18,514 and 11,276 equivalent to 11.5 per cent and 7.0 per cent of the total, respectively. Within Metropolitan Windsor, the largest single employer was the service industries sector with 54.2 per cent of the City's labour force while manufacturing accounted for 35.8 per cent of the total. In Sarnia, the service and related industries also represented the largest employer in the City with 51.8 per cent of the total labour force while the manufacturing industry was responsible for 36.0 per cent. In Chatham, there was a more pronounced difference between the two industrial groups with the service industries accounting for 63.9 per cent of the total while manufacturing absorbed 25.8 per cent of the City's labour market supply.

Labour requirements in the Region are expected to increase in all employment sectors with the exception of agriculture whose labour force is expected to decrease during the 1961-1976 period. The shifts in sectoral composition of the Region's labour force are presented in the following table.

While the relative share of the labour force engaged in manufacturing and the service industries is expected to rise from 29.8 per cent to 31.0 per cent and from 48.7 per cent to 52.1 per cent, respectively, the agricultural work force will decline from 12.5 per cent in 1961 to 6.9 per cent in 1976. The miscellaneous group which includes the con-

LABOUR FORCE, EARNINGS AND INCOME

struction industry will absorb an increasing number of the labour force rising from 9.0 per cent to 10.0 per cent of the total work force during the forecast period.

SECTORAL DISTRIBUTION OF LABOUR FORCE, LAKE ST. CLAIR REGION, 1961 AND 1976				
	1961	1976	1961 — — %	1976 — —
Agriculture	20,145	14,800	12.5	6.9
Manufacturing	47,934	66,900	29.8	31.0
Service Industries	78,399	112,400	48.7	52.1
Miscellaneous	14,527	21,600	9.0	10.0
Total	161,005	215,700	100.00	100.0

The anticipated loss in agricultural land resulting from the continuing growth of Windsor, Sarnia and Chatham and increasing urbanization of smaller centres will account largely for the decline in agricultural demand for labour. In addition, increasing mechanization of agriculture will displace a number of people even though the Lake St. Clair Region is predominantly a labour intensive crop area. The agricultural labour force is expected to decline gradually over the 1961-1976 period with the projected expansion of the manufacturing and service industries absorbing the major portion of the shift in the regional work force.

Occupational Divisions

The number of people who worked for wages or salaries has increased some 67.9 per cent from 1941 to 1961 whereas total labour force expanded by 40.8 per cent over the same period. The number of wage and salary earners in 1941 stood at 78,077 or 68.3 per cent of total labour force while by 1961 the number had grown to 131,097 people or 81.4 per cent of the total regional work force. An important factor in this increase is the gradual disappearance of the small store owner in many marketing areas. The rise and spread of the supermarket and more recently the large discount stores and the continuing trend of department store shopping has forced a large number of small store owners out of the market. In Kent a larger proportion of the labour force is self-employed as agriculture is the leading industry represented by many small holdings. Even here, however, the proportion of people who worked for wages or salaries has risen from 54.6 per cent in 1941 to 73.0 per cent by 1961.

The leading occupational group in 1961 was craftsmen, production process and related workers with 26.7 per cent of the total while farmers and farm workers accounted for 12.6 per cent. The clerical group absorbed 12.1 per cent while services and recreation occupied 11.5 per cent of the regional labour force.

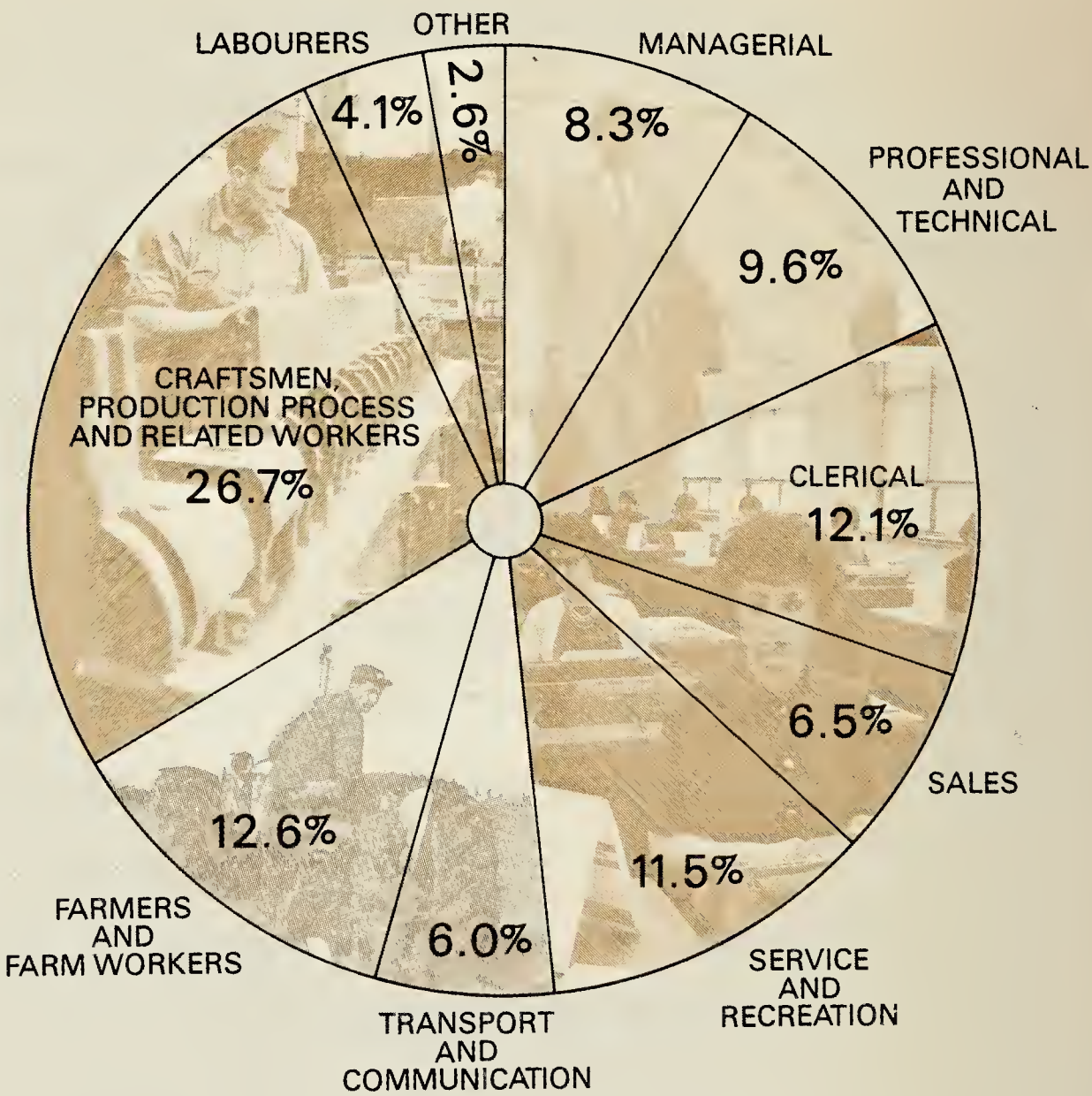
In the female sector of the labour force 27.7 per cent and 23.8 per cent were classed as clerical, service and recreation, respectively, while

LAKE ST. CLAIR REGION ECONOMIC SURVEY

8.1 per cent were engaged as craftsmen, production process and related workers.

The proportion of the male labour force grouped as craftsmen, production process and related workers was 33.6 per cent whereas 14.8 per cent were occupied as farmers or farm workers and 10.1 per cent had managerial positions.

DISTRIBUTION OF OCCUPATION
DIVISIONS OF LABOUR FORCE
LAKE ST. CLAIR REGION, 1961



EARNINGS AND INCOME

Labour Income

Reviewing the period 1951 to 1964, labour income which accounts for approximately two-thirds of total net income, increased from \$291.4 million in 1951 to \$603.3 million by 1964 equivalent to an average annual

LABOUR FORCE, EARNINGS AND INCOME

growth of 5.25 per cent compared with 7.50 per cent for the Province. While regional labour income increased in absolute terms its relative share of Ontario's total declined from 7.7 per cent in 1951 to 6.2 per cent in 1964. The major cause for this decline was the transfer of a significant portion of existing automotive operations out of the Windsor area although new industries such as oil refining and chemical processing in Lambton County partially offset the decrease.

Within Lake St. Clair, the Border Sub-Region accounted for the major share of labour income totalling some \$475.7 million in 1964 or 78.8 per cent. Essex was the leading County with \$388.0 million or 64.3 per cent of the regional total while Kent had \$87.6 million or 14.5 per cent whereas Lambton County represented 21.2 per cent or \$127.6 million.

Labour income in Kent experienced an above average growth of 6.00 per cent per annum over the 1957-1964 period and consequently increased its relative share from 14.1 per cent in 1957 to 14.5 per cent in 1964. Essex County had the second highest growth in the Region at 5.50 per cent annually and its share of total labour income increased from 63.9 per cent to 64.3 per cent during the period under review. Labour income in Lambton advanced at an annual rate of 4.75 per cent resulting in a decline in its relative share of the total from 22.0 per cent in 1957 to 21.2 per cent in 1964. On the whole, labour income in the Lake St. Clair Region experienced a moderate growth of 5.50 per cent per annum compared with a Provincial average of 6.25 per cent.

ANNUAL GROWTH OF LABOUR INCOME, LAKE ST. CLAIR REGION, 1957 TO 1964		
	Aggregate Labour Income — — — — — %	Per Capita Labour Income — — — — —
A-Border		
Essex	5.50	5.25
Kent	6.00	3.50
Sub-total	5.50	4.75
B-Lambton		
Lambton	4.75	3.00
Total, Region	5.50	4.50
Total, Ontario	6.25	4.25

Although aggregate labour income figures are an important economic indicator, they tend to distort the magnitude of actual growth in the area as they do not reflect shifts in the labour force. Income figures on a per capita basis, therefore, supplement the discussion on regional labour income. Whereas average income per employee increased 4.25 per cent per annum in the Province as a whole, the Lake St. Clair Region experienced a growth of 4.50 per cent over the 1957-1964 period. Within the Region, labour income per capita in Essex County recorded the

LAKE ST. CLAIR REGION ECONOMIC SURVEY

highest growth with 5.25 per cent annually while labour income per employee in Kent and Lambton Counties increased by annual increments of 3.50 per cent and 3.00 per cent, respectively.

In terms of absolute magnitude, average labour income per employee in the Region increased from \$2,822 in 1957 to \$3,836 in 1964 compared with \$2,915 to \$3,906 in the Province.

LABOUR INCOME PER CAPITA OF LABOUR INCOME RECIPIENTS, LAKE ST. CLAIR REGION, SELECTED YEARS					
	1957	1959	1961	1963	1964
	— — — — —	— — — — —	— \$ — — — — —	— — — — —	— — — — —
A-Border					
Essex	2,896	3,182	3,340	3,812	4,151
Kent	2,235	2,507	2,415	2,834	2,865
Sub-total	2,750	3,017	3,107	3,559	3,834
B-Lambton					
Lambton	3,114	3,236	3,578	3,742	3,842
Total, Region	2,822	3,064	3,208	3,598	3,836
Total, Ontario	2,915	3,197	3,428	3,678	3,906

Despite the relative decline in aggregate labour income during the first seven years of the period under review, wages and salaries earned per employee in Essex increased from \$2,896 to \$4,151 remaining above the regional average during the eight-year period and above the Provincial average during the last two years. A significant factor in this is the prominence of the automotive industry in the Windsor-Detroit area and the high wages and salaries earned in this sector. Lambton County, although experiencing consistently higher incomes per capita than the Provincial average and the highest wages paid in the Region during 1957 to 1962, dropped to second place after Essex in 1963 and 1964. The importance of the petrochemical operations around the Sarnia area and the above average wage rates paid in this industry account largely for the favourable per capita labour income which increased from \$3,114 in 1957 to \$3,842 by 1964. The agricultural County of Kent remained consistently below the regional and Provincial levels of income during the period under discussion although improving from \$2,235 in 1957 to \$2,865 in 1964.

Based on current growth patterns total Provincial labour income is expected to expand at an average annual rate of 4.25 per cent to 5.25 per cent consistent with national "economic goals" set by the Economic Council of Canada in its 1964 annual review. By 1976, it is estimated that Ontario's labour income will range between \$15,923.8 million and \$17,856.8 million in terms of constant 1964 dollars.

Recent trends indicate that wages, salaries and commissions earned in the Lake St. Clair Region will fluctuate around 6.2 per cent of the Provincial total reaching some \$987.3 million to \$1,107.1 million in terms

LABOUR FORCE, EARNINGS AND INCOME

of constant 1964 dollars at the end of the forecast period. With the transportation equipment, petrochemical, foods and beverages industries and agriculture likely to continue to play a dominant role in the Region's economy, these economic sectors are expected to account for the major portion of labour income generated in the Region.

Personal Income

Within the observational range extending from 1960 to 1963, average annual personal income in the Region increased from \$3,646 to \$4,060 equivalent to 3.60 per cent growth per annum compared with an annual average of 3.00 per cent in the Province where the annual average increased from \$3,711 to \$4,052.

Within the Region, Lambton County consistently recorded the highest average annual income increasing from \$3,901 in 1960 to \$4,176 in 1963 while remaining above the Provincial and regional levels of average income. Personal income in Essex County as well was above the regional average during the four-year period and exceeded the Provincial average during 1963 increasing from \$3,668 in 1960 to \$4,154 by 1963 whereas average income in Kent County rose from \$3,285 to \$3,668. Increasing industrial activity in the Region and above average wage rates paid in the automotive and petro-chemical industries characteristic of Essex and Lambton will continue to strengthen the relative position of regional average annual income in comparison with income levels generally prevailing in Ontario.

AVERAGE ANNUAL INCOME, LAKE ST. CLAIR REGION, 1960 TO 1963				
	1960	1961	1962	1963
	— — — — —	— — — — —	— — — — —	— — — — —
— \$ — — — — —				
A-Border				
Essex	3,668	3,738	3,893	4,154
Kent	3,285	3,191	3,448	3,668
Sub-total	3,574	3,600	3,778	4,028
B-Lambton				
Lambton	3,901	3,951	4,057	4,176
Total, Region	3,646	3,676	3,840	4,060
Total, Ontario	3,711	3,825	3,932	4,052

Reviewing the relative frequency of income recipients by income class in the Region there is considerable variation from Ontario's overall income distribution. While the number of people receiving less than \$2,000 per annum averaged some 25.1 per cent of the total number of income recipients in the Province during the 1960-1963 period, the relative proportion in Lake St. Clair averaged about 28.3 per cent of the total. However, the percentage of recipients in the under \$2,000 income class has declined from 28.9 per cent in 1960 to 27.0 per cent by 1963 in the Region and from 26.1 per cent to 24.3 per cent in Ontario as a whole.

LAKE ST. CLAIR REGION ECONOMIC SURVEY

In fact, the number of income recipients falling in the lower income classes up to \$4,000 has decreased steadily during the period under review reflecting a more equitable distribution of personal income in the Region and in the Province as a whole. While the proportion of people receiving less than \$4,000 per year has declined in the Region from 62.6 per cent in 1960 to 57.1 per cent in 1963 the comparable percentages for the Province as a whole were 64.1 per cent to 58.1 per cent of total income recipients.

DISTRIBUTION OF PERSONAL INCOME, LAKE ST. CLAIR REGION AND ONTARIO, 1960 AND 1963				
Income Class \$	1960		1963	
	Region	Province	Region	Province
	— — — —	% of total no. of income recipients	— — — —	— — — —
under 1,999	28.9	26.1	27.0	24.3
2,000-2,999	17.2	19.1	16.3	17.0
3,000-3,999	16.5	18.9	13.8	16.8
4,000-4,999	16.2	15.4	13.6	15.0
5,000-5,999	9.3	8.8	11.9	10.8
6,000-9,999	9.8	8.9	14.3	12.4
10,000 and over	2.1	2.8	3.1	3.7
Total	100.0	100.0	100.0	100.0

The number of people receiving over \$6,000 per year has shown an appreciable rise in the Region increasing from 11.9 per cent in 1960 to 17.4 per cent in 1963 whereas in Ontario the relative proportions were 11.7 per cent to 16.1 per cent. The continuing trend to higher wage levels and setting of minimum wage rates by the government and unions have played an important role in the increasing uniformity of income distribution.

Within the Lake St. Clair Region, there is an even wider variation of income distribution with Kent County showing a more inequitable distribution than either Essex or Lambton. In 1960 about 71.2 per cent of income recipients received less than \$4,000 per annum although by 1963 the relative proportion fell to 65.3 per cent. Seasonal employment and low wages characteristic of agricultural areas account largely for the low income levels of the majority of income recipients in this County. In Essex, the group of people receiving less than \$4,000 per year dropped from 61.7 per cent to 54.7 per cent of total income recipients while in Lambton the relative shares were 57.1 per cent and 55.9 per cent during the four-year period under review. It should be noted that Essex County's income distribution has improved appreciably as industrial activity has expanded in the past few years.

Lambton County with high wages paid in the petrochemical industry had 16.8 per cent of the people receiving over \$6,000 per annum in 1960 while by 1963 the proportion had risen to 22.1 per cent by far exceeding the Provincial average of 16.1 per cent of total income

LABOUR FORCE, EARNINGS AND INCOME

recipients falling in the higher income groups. The relative proportions in Essex were 11.1 per cent and 17.3 per cent, respectively, while in Kent the number of people receiving over \$6,000 annually increased from 8.6 per cent to 12.5 per cent of the total during the 1960-1963 period.

While the overall trend in the Region is pointing towards a more equitable distribution of income, there is still a considerable degree of socially undesirable inequality particularly in Kent County where 30.3 per cent of the income recipients receive less than \$2,000 per annum. Based on current and past trends, however, it is expected that a gradual shift towards increasing uniformity of income distribution will take place as the proportion of people in the lower income groups tends to decline not only in Kent but in the Lake St. Clair Region as a whole.

AGRICULTURE

PHYSICAL CONDITIONS

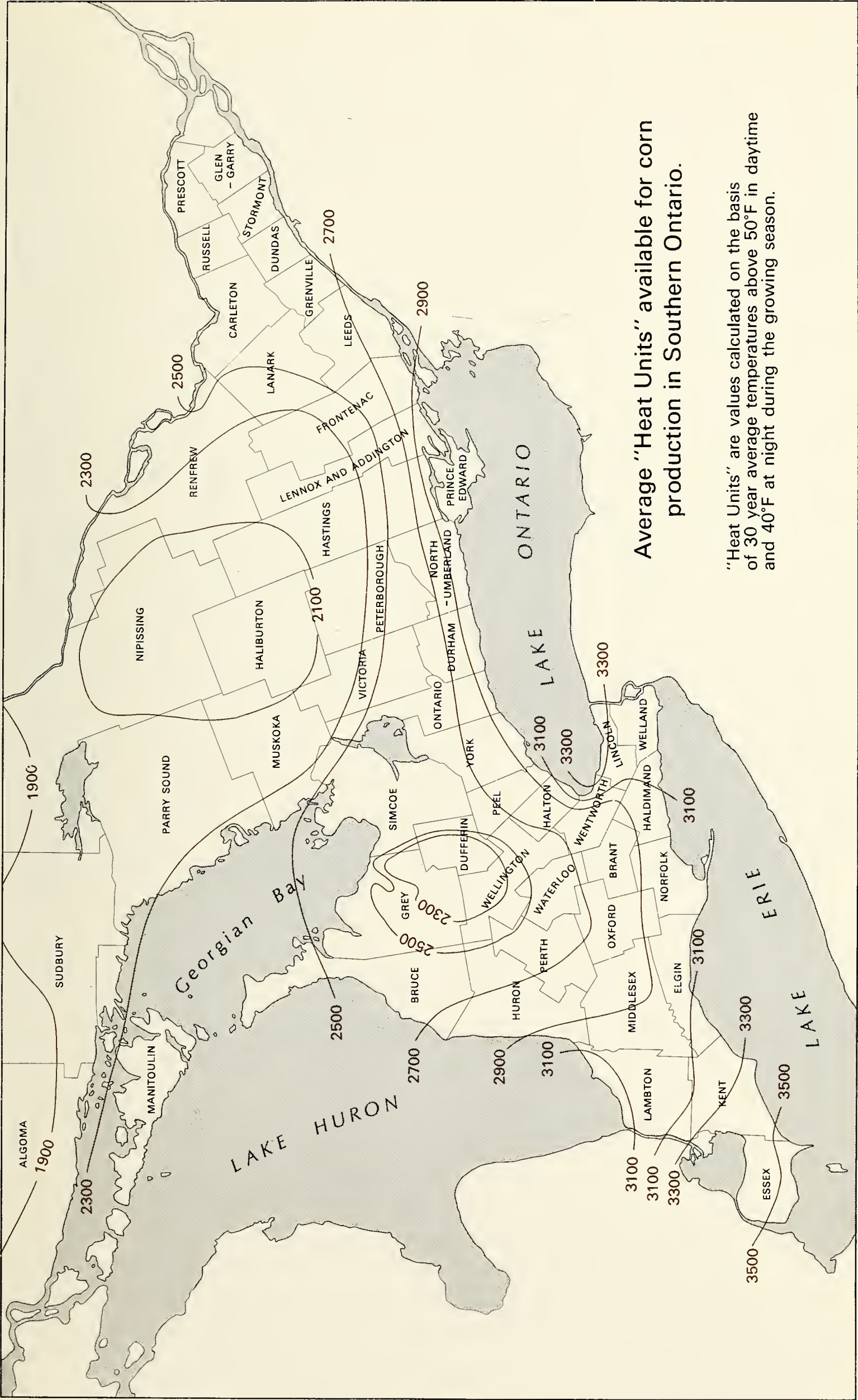
The climate of Essex and Kent Counties is one of the most favoured in the Province from the point of view of agricultural production. Essex County has the longest growing season of any area of Eastern Canada. Within the County, the Leamington area, the southernmost part of Canada, enjoys a particularly favourable position with the growing season usually beginning during the first week of April, nearly a week earlier than in any other part of the Province. In the rest of Essex and Kent Counties its duration extends on average from 203 to 213 days.

The average annual precipitation, although comparatively low (28-30 inches), is fairly well distributed during the year. However, there is seldom a year without a drought period. For this reason an increasing number of irrigation systems was installed over the last few years. In Lambton County the average length of the growing season is about 200 days, from the middle of April to the first of October, while the average annual precipitation varies from 30 to 34 inches.

Soils and Topography

While there are many soil types in the Lake St. Clair Region, ranging from heavy clay to light sands, the Brookston clay and clay loam along with a few heavy textured soils constitute about two-thirds of the area of the Region. It is on these fertile, heavy textured soils that most of the husking-corn, soybeans, sugar beets, winter wheat and the majority of processing crops such as canning-tomatoes, sweet corn and peas are grown. A smaller area of light textured soils (sand and sandy loams), which includes the Leamington, Kingsville and Harrow districts and extends parallel to the shore of Lake Erie, is exceptionally well adapted for the growing of horticultural crops of all kinds.

The topography of the Region is mostly flat. A large portion of the heavy textured soils (especially in Essex and Kent) has been tile drained. Drainage improvement has been very effective on these soils in that it has greatly increased their capability to grow a wider range of crops.



Average "Heat Units" available for corn production in Southern Ontario.

"Heat Units" are values calculated on the basis of 30 year average temperatures above 50°F in daytime and 40°F at night during the growing season.

LAKE ST. CLAIR REGION ECONOMIC SURVEY

STRUCTURE OF AGRICULTURE

Fertile soils, favourable climate and geographical location have encouraged agricultural activities from the early days of settlement with the result that the Lake St. Clair Region has become one of the prime cash crop, fruit and vegetable, and livestock-raising areas of Ontario.

Area, Number and Size of Farms

According to the 1966 Census, farms occupied 86.3 per cent of the area of the Region. The comparable figure for the Province was 7.7 per cent. In southern Ontario (eliminating the Northeastern and Northwestern Economic Regions) farm land accounts for approximately 50 per cent of the total land area. While in the 1961 to 1966 period the total farm area of the Province declined by 4.1 per cent, the reduction in the area of the farms of the Region was only 1.2 per cent. Similarly, between 1961 to 1966, the rate of reduction of the number of farms of the Region was 8.3 per cent, which was slightly lower than the comparable figure for the Province as a whole (9.4 per cent).

In 1966, the average size of farms in Essex County was 82.0 acres, in Kent 132.6 acres, and in Lambton 148.9 acres. A trend to larger farm holdings is apparent throughout the Region. While in 1961 the average size of farms was 111.2 acres, in 1966 the regional average was 119.9 acres. However, this size is below the Provincial average of 162.2 acres in 1966.

Conditions of Farm Land

In 1966, in the Region, approximately 89.3 per cent of the farm land was classified as improved land, and by far the largest portion of this was employed in cultivation of crops. In Essex County 85.8 per cent of **total** farm area was under crops, and in Kent 83.9 per cent. Lambton used 58.3 per cent of its farm land for crop cultivation, which was still considerably higher than the comparable figure for the Province as a whole (46.9 per cent).

For the Region as a whole in 1966, the area under pasture occupied 10.7 per cent of the total farm land; in Essex 3.0 per cent, in Kent 5.9 per cent. In Lambton County 19.9 per cent of the farm land was used as pasture compared with the Provincial average of 16.4 per cent.

Economic Classification of Farms

In 1966, 9,431 or about 74 per cent of the farms were classed as commercial. Kent had the highest proportion of commercial farms with 84.7 per cent followed by Essex and Lambton (69.3 per cent each). The comparable figure for the Province as a whole was 64.4 per cent.

Value of Agricultural Products Sold in 1951 and 1961

The annual value of agricultural products sold in the Region increased by 62.7 per cent over the decade 1951 to 1961. This increment is below the comparable figure for the Province as a whole where a 74.9 per cent increase was recorded.

In 1961, the average value of agricultural products sold per farm

AGRICULTURE

was \$6,713, which exceeded by 6.9 per cent the Provincial average. According to the 1961 Census, there were substantial divergencies within the Region. In Kent the average value of agricultural products sold was \$7,669, Essex ranked second with \$7,012, while in Lambton the average value of agricultural products sold was only \$5,286 or 15.8 per cent less than the Provincial average.

An examination of the main sources of farm income provides an informative insight into the structure of the agriculture of the Region. In Essex County, vegetables and greenhouse products represented 34.6 per cent of the total value of agricultural products sold, livestock and livestock products were second in importance with 30.7 per cent and field crops accounted for 30.6 per cent of agricultural sales.

In Kent County, field crops were the major source of farm income (50.3 per cent of total agricultural sales), vegetables and greenhouse products represented 8.3 per cent and the sale of livestock and livestock products counted for 39.7 per cent.

In Lambton County the sale of livestock and livestock products was the predominant source of farm income (76.4 per cent of total value of agricultural products sold), field crops ranked second (18.9 per cent), while the share of vegetables and greenhouse products was insignificant (3.2 per cent).

AGRICULTURAL PRODUCTION

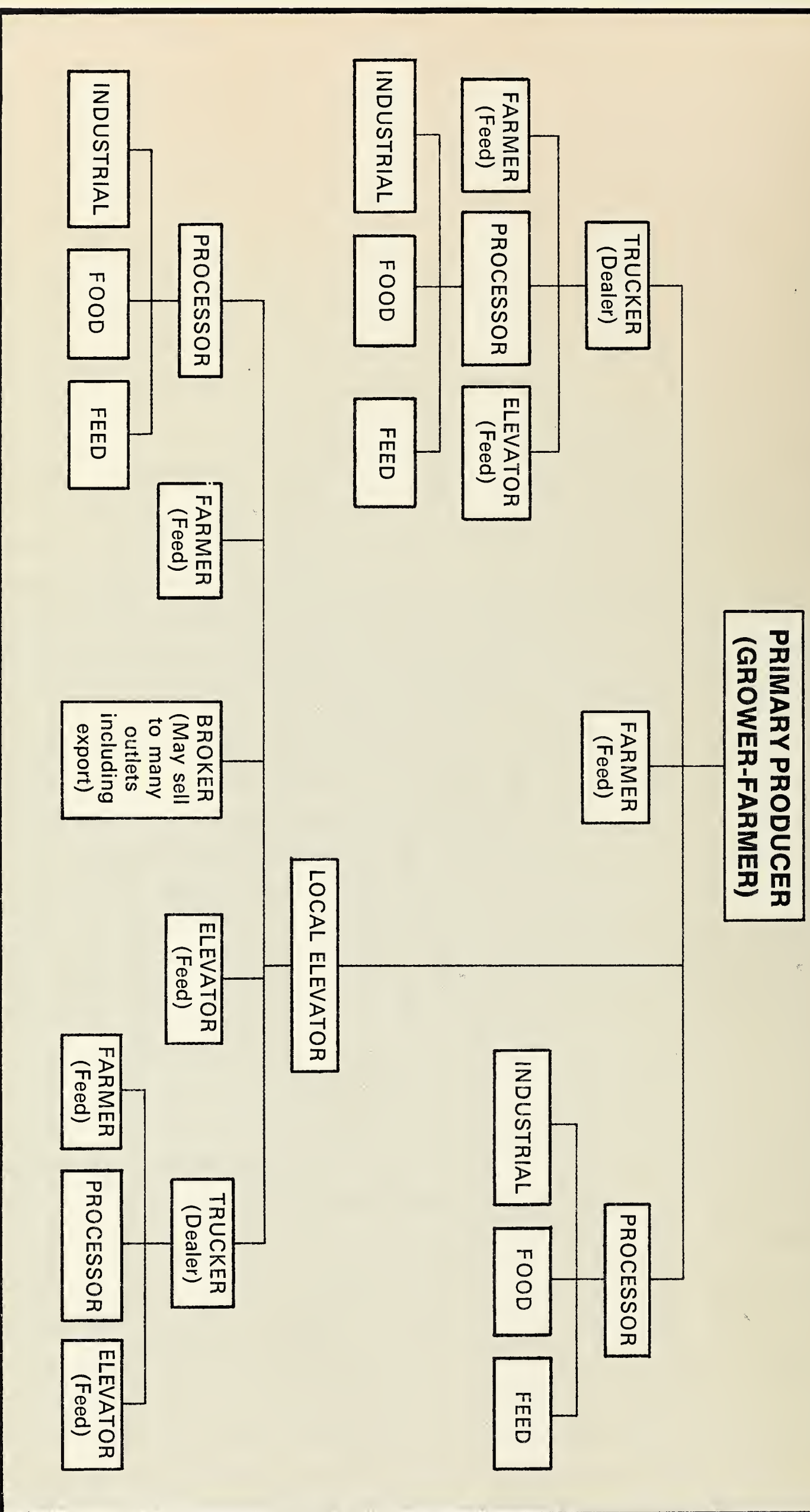
Factors Influencing the Area of Crops

The crop area of the Region reflects the combined impact of physical conditions, technical advances and socio-economic variables. The favourable soil and climatic conditions which prevail in Essex and Kent Counties and to a lesser extent in Lambton, permit the successful production of a wide variety of cash crops, such as winter wheat, corn, soybeans, tomatoes and sugar beets.

The acreage dedicated to each of these crops in a particular period greatly depends on their relative profitability, rates of mechanization and labour requirements. A table in the Appendix indicates that with \$186 and \$25 respectively, tomatoes and sugar beets result in considerably higher net returns per acre than winter wheat, corn and soybeans. On the other hand, while labour requirement for tomatoes and sugar beets is high and seasonal, the mechanization of wheat, corn and soybean production substantially reduce the need for labour.

These differences work in opposite directions. The area of sugar beets and tomatoes is limited to a great extent by the availability of seasonal labour. Wheat, corn and soybean growers intend to increase the scale of operations in order to more profitably utilize expensive machinery and equipment. Even more important are a number of socio-economic factors such as the capacity of the domestic market, export possibilities, import regulations, costs of production and returns in other Canadian regions. The activities of marketing boards, and contracts

FLOW CHART OF GRAIN-CORN MOVEMENTS





—Courtesy—Ontario Department of Tourism and Information.

A typical corn field in the Region.

between growers and purchasers, also affect demand, prices, and profitability of production.

Changes which occur in all these technical and socio-economic factors partially neutralize one another. The acreage of crops in a particular time corresponds to the net effects of these interrelated variables.

Field Crops

In 1966, the farm value of total field crops in the Region was \$102.3 million, and represented 21.6 per cent of the Provincial total. Influencing factors have varied considerably, and contributed materially to swings in total crop values and acreages in the Region. However, certain trends

AREA AND VALUE OF MAJOR FIELD CROPS, LAKE ST. CLAIR REGION, 1966									
	Winter Wheat			Corn (For Husking)			Soybeans		
	Farm Value			Farm Value			Farm Value		
	% of			% of			% of		
	Acre	(\$000's)	Prov.	Acre	(\$000's)	Prov.	Acre	(\$000's)	Prov.
A-Border									
Essex	38,462	3,457	12.9	89,829	11,029	12.0	83,392	8,660	32.3
Kent	41,499	3,915	14.6	195,528	25,199	27.4	96,184	9,928	37.0
Sub-total	79,961	7,372	27.5	285,357	36,228	39.4	179,576	18,588	69.3
B-Lambton									
Lambton	37,035	3,168	11.9	72,055	7,356	8.0	58,189	5,150	19.2
Total, Region	116,996	10,540	39.4	357,412	43,584	47.4	237,765	23,738	88.5
Total, Ontario	341,386	26,737	100.0	786,194	91,990	100.0	278,849	26,817	100.0

LAKE ST. CLAIR REGION ECONOMIC SURVEY

can be clearly identified. While in the period 1951 to 1966, the area of winter wheat decreased to a certain extent, acreage under corn for husking increased from 195,808 to 357,412 acres (by 82.5 per cent) and under soybeans from 133,444 acres to 237,765 (by 78.2 per cent). Over the same period, reductions in acreage were experienced for oats (147,105 acres in 1951, compared with 107,290 in 1966) and hay (143,187 acres in 1951, as against 106,076 in 1966).

In 1966, the Region produced (in terms of value) 88.5 per cent of the Province's soybean crop, 47.4 per cent of corn (for husking) and 39.4 per cent of the winter wheat. Several large industries such as starch companies, distilleries, breakfast food manufacturers and feed producers are increasing their annual purchases of corn.

Special Crops

In 1966, the area of sugar beets was 10,812 acres, which represented over 90 per cent of sugar beet acreage in Ontario. Kent alone accounted for 73.8 per cent of the total sugar beet area in the Province. The area dedicated to sugar beets has fluctuated widely. The expansion in acreage in 1958 and 1959 was prompted by the increased capacity in local plants, while falling prices in 1959 resulted in a sharply decreased acreage in the subsequent year. The unprecedented high price in 1963 (\$23.2 per ton) was a consequence of reported shortages on the world market.

Another special crop of importance in the Region is burley tobacco. Burley tobacco production is centered in Kent County. In 1964, about two-thirds of Ontario's production (1,362 out of 2,065 acres) of this type of tobacco was grown in this County. In the same year in Essex County, the area of burley tobacco was 646 acres.

Canning Crops

The farm value of canning crops for the Region amounted to \$20.2 million in 1966. In both Essex and Kent Counties canning crops are particularly important. In 1966, these Counties produced about 68 per

AREA AND FARM VALUE OF TOMATOES, LAKE ST. CLAIR REGION, 1966			
	Area (acres)	Farm Value (\$000's)	% of Province
A-Border			
Essex	10,147	5,125	41.0
Kent	6,795	4,969	39.8
Sub-total	16,942	10,094	80.8
B-Lambton			
Lambton	248	153	1.2
Total, Region	17,190	10,247	82.0
Total, Ontario	22,353	12,490	100.0
Source: Ontario Vegetable Growers' Marketing Board.			

AGRICULTURE

cent of the total value of canning crops in Ontario. In the Region as a whole, tomatoes (for processing) accounted for 82.0 per cent, green peas for 39.0 per cent, sweet corn for 44.0 per cent, while minor canning crops such as cabbage, carrots, green and wax beans, lima beans, etc., made up 59.0 per cent of the Provincial value of output for these products. The related secondary industries also are significant. In 1962 (the latest year for which such data are available), Essex and Kent Counties contained 28 fruit and vegetable cannery establishments having a total value of shipments in excess of \$100 million. The large and highly seasonal labour requirement for both the production and processing of canning crops (especially tomatoes) represents a recurring problem.

Due to a less favourable climate, only a limited acreage is under canning crops in Lambton County.

Vegetables

As already mentioned, early spring weather facilitates the production of a variety of early truck crops on the light sandy soil of Essex County especially in the area paralleling the Lake Erie shoreline. In 1964, Essex County with a farm value of \$6.4 million, produced about a quarter of Ontario's vegetables. In Kent and Lambton Counties, vegetable production is concentrated in the Eriean area and the Thedford-Grand Bend marshes, respectively, and provides about six per cent of Ontario's vegetable output. In 1964, the farm value of vegetable production for the Region was approximately \$8.0 million.

Greenhouses

In Essex County, mainly in the Leamington-Kingsville area, hundreds of growers operate individual or multiple steam-heated greenhouses covering areas up to nine acres. Essex County is the largest and most intensive greenhouse vegetable growing area in Canada with about 230 acres under glass and another 60 acres covered by plastic (1966 figures). This represents about half of the total greenhouse area in the Province of Ontario. In 1966, the value of greenhouse products from the Region was estimated at \$6.5 million.

Capital requirements are high. An acre of boiler-equipped greenhousing costs about \$70,000-\$80,000 (plastic covering reduces costs by some 10-15 per cent). Greenhouses normally produce mainly cucumbers, tomatoes and a wide variety of flower crops although some greenhouses in the area are used only as starting houses for early vegetable crops which are later transplanted to the fields.

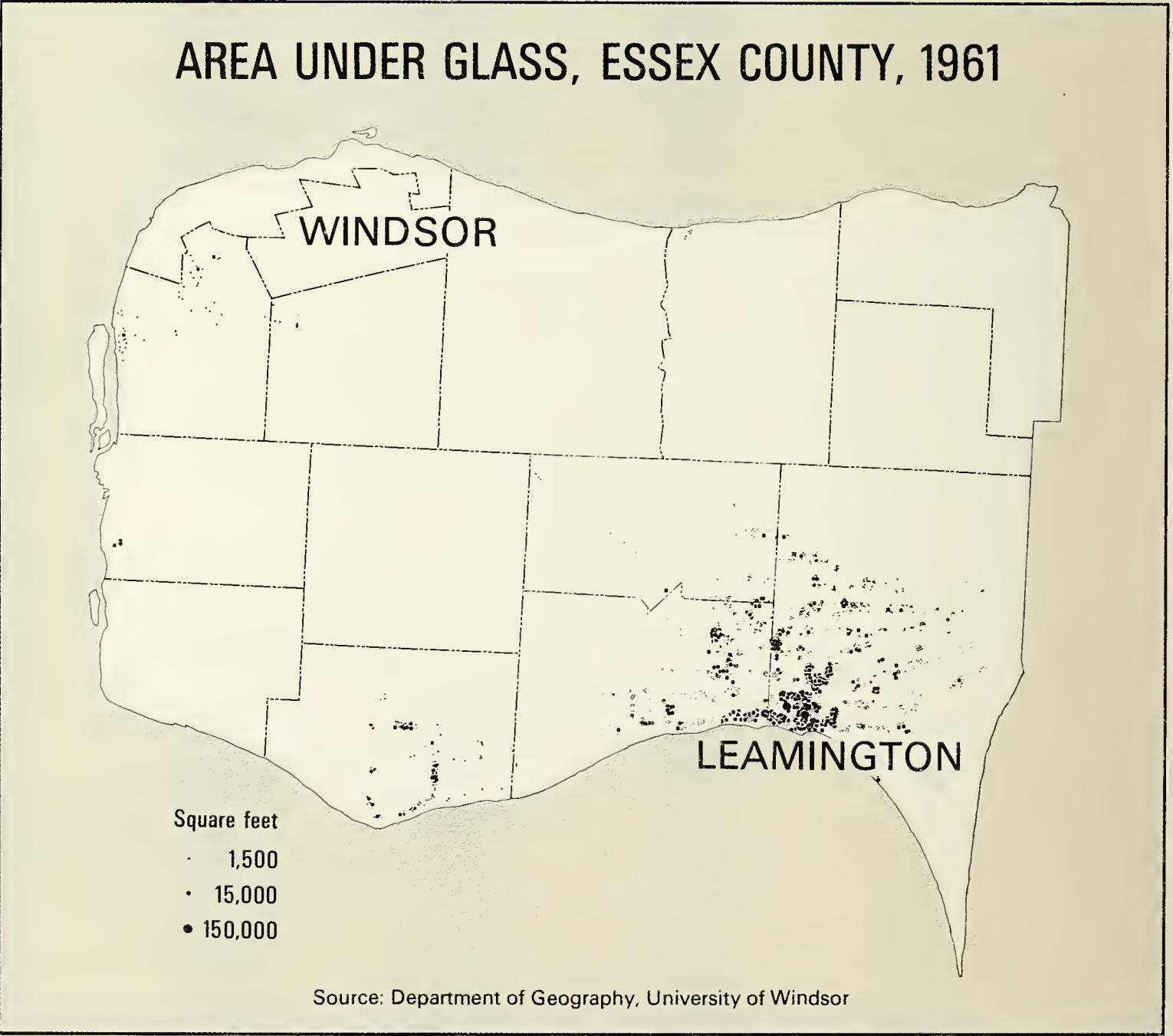
Gross revenue in greenhouse operation is estimated at \$26,000-\$28,000 per acre. The most important cost items, apart from depreciation, are fuel and labour. Almost all greenhouse establishments in Essex County utilize some family labour. In addition, considerable use is made of hired labour, much of it on a relatively permanent basis. Labour cost represents approximately one-third of gross revenue from sales. Fuel

LAKE ST. CLAIR REGION ECONOMIC SURVEY

costs account for about a fifth of gross revenue. On this basis, costs of labour and fuel total about half of gross revenue from sales. To this must be added depreciation and a number of lesser costs including those of soil preparation, fertilizer, seeds and insurance. An approximate estimate of costs and returns is given below.

Gross income per acre \$28,000	
Production costs	Labour \$10,000
	Fuel 5,000
	Interest 3,600
	Miscellaneous 1,000
Total costs \$19,600	
Return per acre of greenhouse production \$ 8,400	

The greenhouse industry is seriously affected by the unorganized character of the market and instability of prices. As the crops are perishable, an increased supply over a period of a few days quickly translates itself into a downward pressure on prices. While processing crops are generally supplied under contract written as between grower and processor in advance of planting, greenhouse products are subject to abrupt changes in price behaviour which may result not only from erratic domestic supply, but also from seasonally oriented demand and



AGRICULTURE

the level of imports.

Orchards

The approximately 4,500 acres of commercial orchard in the Region are concentrated in three small areas near Lake Erie around the towns of Blenheim in Kent County, and Leamington and Harrow in Essex County. With over 2,000 acres of peaches, Kent-Essex Counties are second only to the Niagara Fruit Belt. In 1964, farm value of tree fruit production for the two Counties amounted to \$1.9 million.

Large amounts of Kent-Essex apples, peaches and pears are purchased by processing companies in the area for baby food products. While southern Ontario provides the largest market for fresh fruit sales, significant quantities of peaches are shipped also to the Detroit area and the Province of Quebec.

Climatically, the Kent-Essex area is favoured with higher summer temperatures and a longer growing season than the Niagara Fruit Belt. Its peach harvest season is about ten days earlier than that of Niagara, thus enabling the Kent-Essex growers to take advantage of higher prices for early marketings. Over 20,000 acres of suitable land are available for the production of peaches and sweet cherries. However, the recent Kent-Essex experience with winter-peach tree losses together with difficulties in nursery stock has been discouraging to some growers.

In contrast, only about 300 acres of peaches are located in Lambton County and these are concentrated on a gravelly ridge near Forest and in an area adjacent to Arkona. Although winter damage to peach wood is negligible in these districts, the chance of winter injury to dormant peach blossom buds is one out of every three years. Total value of fruit tree production in Lambton County was approximately \$300,000 in 1964.

LIVESTOCK PRODUCTION

Cattle

Between 1951 and 1965 the number of cattle in the Region increased significantly. In 1951, cattle on farms numbered 152,500 and were valued at \$33.0 million (80.4 per cent of total value of livestock on farms). In 1965, the number of cattle was 200,870, valued at \$30.6 million (78.8 per cent of the value of total livestock in the Region).

A continuous decline in the number of milk cows can be observed, accompanied by a remarkable increase in beef cattle. In 1951, the number of milk cows and yearlings for milk purposes was 61,250, while in 1965 there were only 40,900 (33 per cent reduction). The rate of reduction was the greatest in Kent County (63 per cent), followed by Essex (27 per cent) and Lambton (22 per cent). In the same period the number of beef cattle in the Region increased by 112 per cent (from 52,688 to 111,900).

As may be expected, the volume of cattle marketing is increasing continuously in the Region. In 1951, there were 38,685 cattle sold to public stockyards, packing plants or direct to export. In 1966, the



—Courtesy—Ontario Department of Tourism and Information.

A cattle farm in Lambton County.

number of marketed cattle was 82,291. This means that over the period 1951 to 1966, the number of marketed cattle of the Region increased by 112.7 per cent. The comparative figure for the Province as a whole was 82.3 per cent. In 1966, 86.4 per cent of total steers and heifers sold in the Region were graded as “choice” or “good”. The comparable figure for the Province was 81.4 per cent.

While in Essex and Kent Counties the beef cattle industry is expanding vigorously, the area of pasture is continuously decreasing in favour of cash crops. Farmers of these Counties have found several ways to alleviate the consequences of conflicts in land use. In 1966, more than 50,000 beef feeders for finishing were brought into the Region, mostly from the Prairie Provinces. Farmers of Kent County have purchased or rented extensive pasture areas in Lambton County where land is less expensive. By-products of the canning and processing plants are used for feeding at an increasing rate to reduce the demand for grain feed.

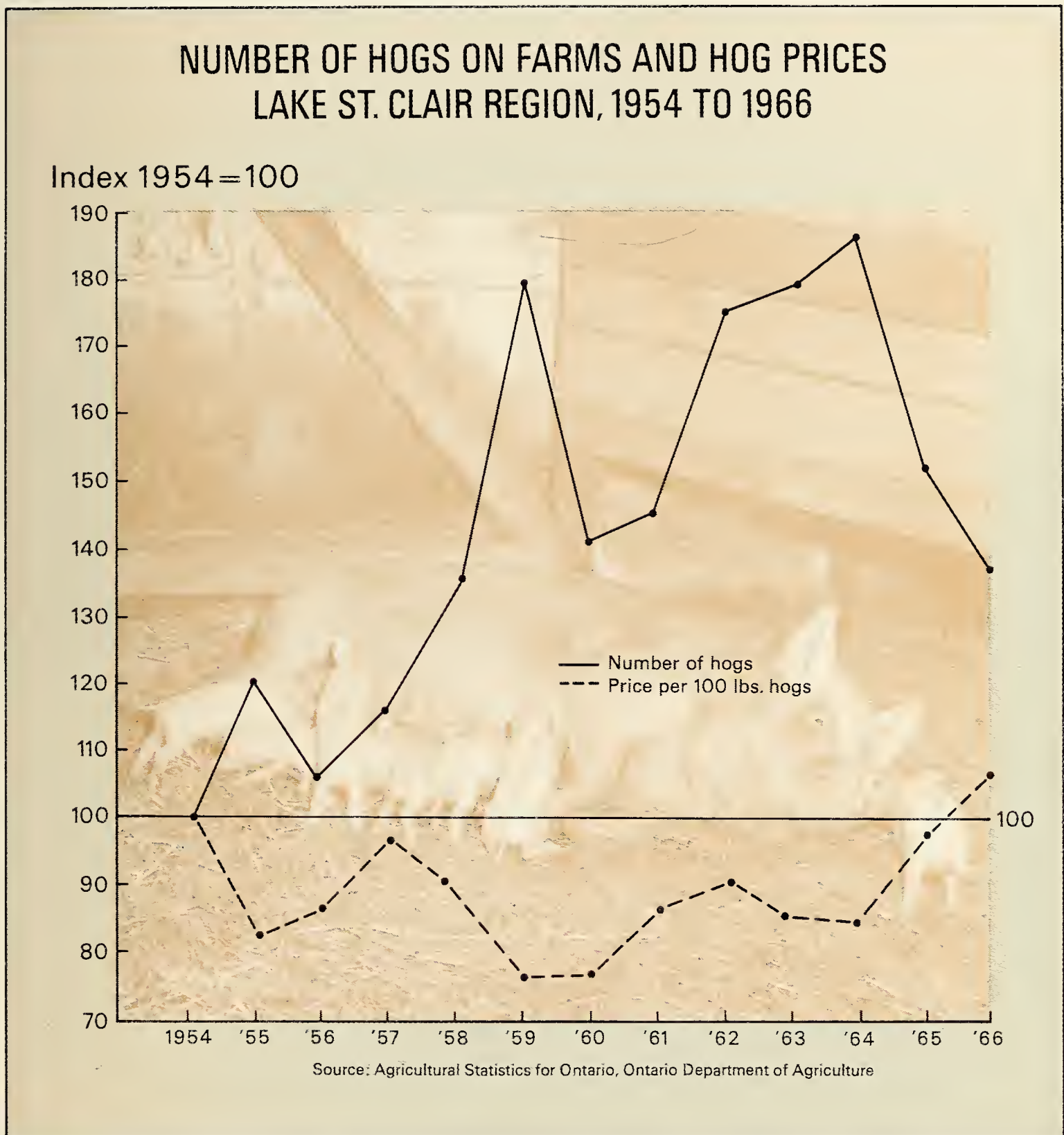
Hogs

Increases in hog operations were slower in the Region than in the Province as a whole: the number of hogs increased by 7.3 per cent during the 1961-1966 period, while the corresponding figure for the Province as a whole was 14.8 per cent.

The chart indicates the fluctuations in hog production in the Region and the average price per 100 lbs. of B1 dressed hogs on public stockyards in Toronto. This cycle arises because of the tendency for hog

AGRICULTURE

producers to plan production on the basis of current prices. Cyclical peaks can be observed in hog production in 1952, 1955 and 1958-60, and corresponding lows in prices in the same years.



Poultry

While both the number and the value of hens and chickens has been decreasing continuously (2.8 million hens and chickens in 1951 and 2.0 million in 1966), turkey production showed a remarkable expansion. In 1951, there were 114,000 turkeys in the Region; in 1966, the number of turkeys was close to 600,000. Lambton County accounts for approximately 60 per cent of the Region's turkey production.

CAPITAL AND LABOUR IN AGRICULTURE

Farm Capital

In the Region, as everywhere in Ontario, the amount of capital required in farming is constantly rising. Whereas in 1951 the average capital investment per acre of farm land in the Region was \$183.0, it had



—Courtesy—Ontario Department of Tourism and Information.

Turkey production in Dawn Township, Lambton County.

increased to \$306.0 (by 67.2 per cent) in 1961. The relevant figures for the Province were \$122.0 in 1951 and \$201.0 in 1961 (an increment of 65 per cent). A major cause of the rise in capital value was the increase in land and building value. While in 1951, the land and building value in this area was \$116.0 per acre of farm land, the corresponding figure was \$230.0 ten years later.

Since 1961, the price of good agricultural land has increased at a rate of 5-6 per cent per year. In 1966, the price of land was about \$400 to \$600 per acre in Essex and the southern part of Kent. In Lambton the land is less expensive, \$150 to \$250 per acre. In Essex County, lands for vegetables are sold at \$1,500 to \$2,000 per acre.

One of the results of the increase in land values is the noticeable trend toward larger farming units, in order to raise the scale of operations and take full advantage of mechanization in agriculture.

Farm Mechanization

The farms of the Region are the most intensively mechanized units in the whole Province. In 1966, there were about 24,000 tractors in the area, and the number of improved acres per tractor was 56.8. The comparable figure for the Province as a whole was 74.0 acres per tractor.

The mechanization of grain harvesting is well advanced. In 1966, there were 4,691 grain combines in the Region. The number of combinable acres was 62.5 per combine. For the same year, the

AGRICULTURE

comparable figure for Ontario as a whole was 129.4 acres per combine. The Region excelled in the mechanization of hay production. According to the Census figures, there were 51.4 acres of hay per baler in this area in 1966. In the same year the Provincial average was 89.5 acres of hay per baler.

In 1966, the operations related to the growing of wheat, and other grains, corn, soybeans, green beans and other crops had been almost completely mechanized. New growing methods, the use of monogerm seed varieties and the mechanization of harvesting has considerably reduced labour requirements for sugar beet production. However, the blocking of sugar beets still requires a large number of agricultural workers in May and June.

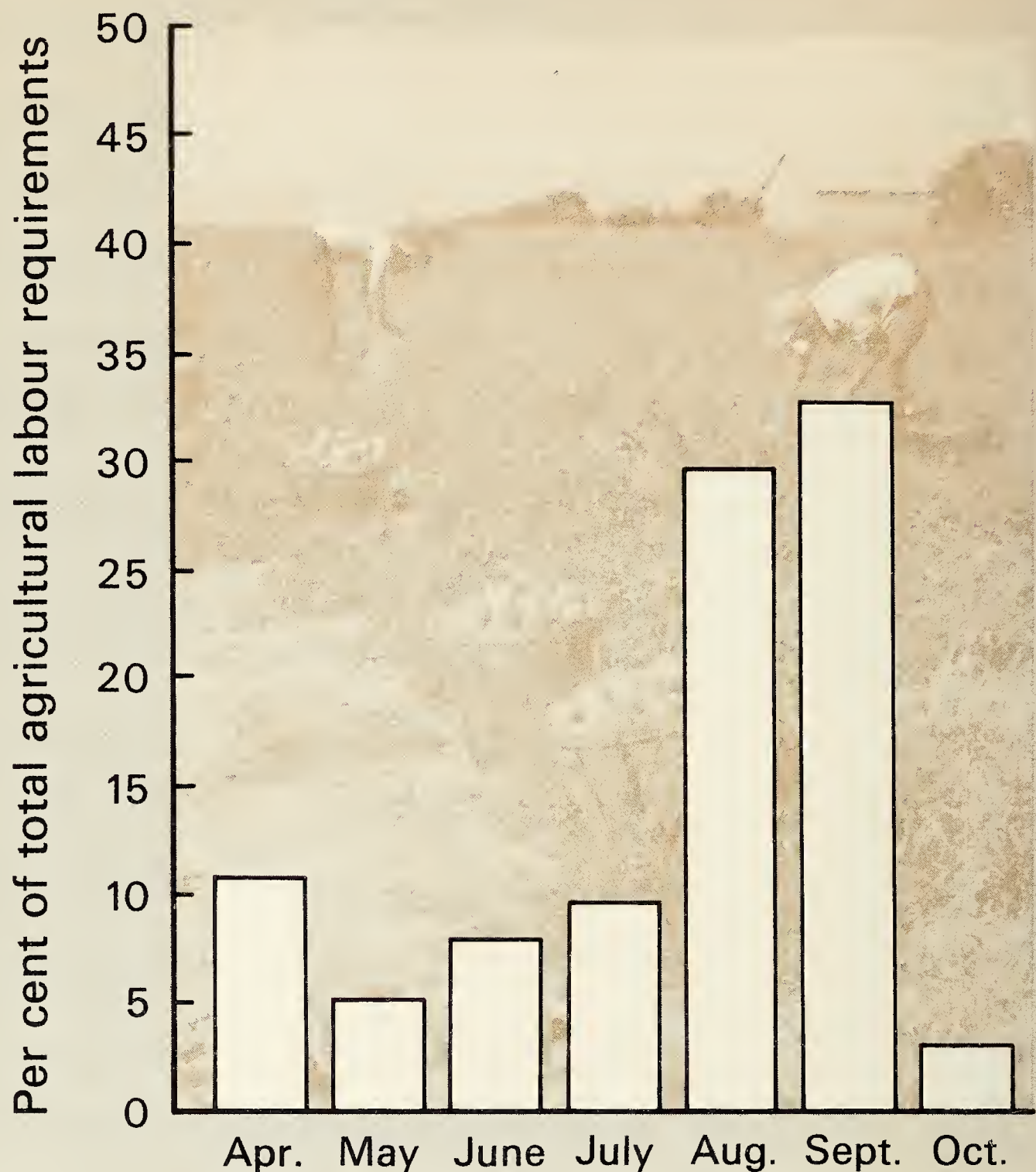
The mechanization of farmstead operations is remarkable. The use of automatic feeding stations, a great variety of materials handling equipment, mechanized gutter-cleaners, electric milkers and facilities for piping milk directly to storage trucks is advancing steadily. Specialized poultry farms raise fowl in buildings with controlled temperature, feed and living conditions to produce only eggs or broilers. This tendency toward automation of farmstead operations is expected to continue.

Seasonal Labour Requirements in Agriculture

Despite advanced mechanization, the intensive agriculture of Essex and Kent Counties puts a heavy demand on labour. Because of the particular features of early vegetable, fruit and canning crop production, the labour demand is seasonal and abrupt. Peaks follow a relative lack of need for agricultural labour. In Essex County, the early vegetable planting and seeding (approximately April 20-middle of May), vegetable harvesting (end of June to the end of July) and the tomato and peach

AGRICULTURAL LABOUR SURVEY, 1964*					
	Acreage Covered by Survey				
	Acres	% of Total Area of Indicated Crops	Total Help Required	Extra Help to be Recruited	Period
Essex					
Sugar beets	1,477	75.3	617	553	May—June
Tomatoes	3,520	32.2	1,583	1,300	Aug.—Sept.
Kent					
Sugar beets	13,189	99.8	2,067	1,625	May—June
Tomatoes	3,530	57.1	2,435	1,041	Aug.—Sept.
Total Sugar Beets Surveyed	14,666	96.6	2,684	2,178	May—June
Total Tomatoes Surveyed	7,050	41.2	4,018	2,341	Aug.—Sept
*Surveyed by Growers' Organization.					

PERCENTAGE DISTRIBUTION AGRICULTURAL LABOUR REQUIREMENTS APRIL TO OCTOBER, ESSEX COUNTY



harvest (August and September) represent the major peak periods.

In Kent County, the time of sugar beet-blocking (from the end of May to the middle of July) and tomato harvesting is critical. Local seasonal workers provide about half of the required labour force. The participation of high school students during the summer holidays is substantial. The rest is provided by housewives, local seasonal and migrant workers from Quebec and the Maritimes, and an increasing number from different Indian reservations.

The growers' organizations and the regional offices of the Manpower Commission make a useful contribution by surveying and assess-

AGRICULTURE

ing the seasonal labour requirements, and advertising for and recruiting labourers from outside the area.

The alternative job opportunities in the industry of the Region, the lack of continuity of employment in agriculture and the shortage of suitable accommodation are identified as the main causes of recurring deficiency in agricultural labour supply.

REPORTED VACANCIES*, 1964					
Month	National Employment Service Regional Office				Total
	Chatham	Wallaceburg	Leamington	Windsor	
May	199	30	686	66	981
June	399	4	1,042	366	1,811
July	717	24	2,048	514	3,303
Aug.	854	2	1,455	557	2,868
Sept.	923	24	1,220	319	2,486
Oct.	294	4	268	123	689
*Vacancies at the beginning of the month plus vacancies notified during the month.					

From August to October, canning companies of the Region require 3,500 to 4,000 seasonal workers. The heavy demand for labour in canneries coincides with the harvest time of canning crops, the busiest period in agriculture. Because of alternative and permanent employment opportunities in other industries, canning companies have difficulty in securing their labour requirements.

Labour shortage, especially if it is combined with labour disputes in one or more plants, may considerably slow down volume of output

Picking tomatoes at Leamington.

—Courtesy—Ontario Department of Tourism and Information.



LAKE ST. CLAIR REGION ECONOMIC SURVEY

and receiving capacity of canning plants, and consequently may have a detrimental effect on the normal course of the harvest of canning crops.

INSTITUTIONAL FRAMEWORK

Long-Term Farm Credit

Long-term mortgage loans are available to Canadian farmers through the Federal Farm Credit Act, administered by the Farm Credit Corporation. This agency represents the major source of long-term loans to farms. The loans obtained under the Act can be used to buy farm land, erect or modernize farm buildings, purchase basic-herd livestock, and provide lime, fertilizer and seed to establish permanent planting. The maximum amount of a loan is \$55,000; the interest rate is five per cent up to \$27,500. On the amount exceeding \$27,500 the interest rate varies from time to time depending on the general level of interest rates.

In 1962, the number of loans obtained in the Region from the Farm Credit Corporation was 251, amounting to \$3,718,000 with an average of \$14,813 per loan. In 1966, the Region's farmers obtained 266 loans with a total of \$6,766,000. This represents an average per loan of \$25,436—a 72 per cent increase over the corresponding 1962 figure. It points up the need for and ability of the farmers of the Region to use long-term mortgage credit to establish or expand their operation on a profitable basis.

NUMBER AND AMOUNT OF LOANS IN THE LAKE ST. CLAIR REGION UNDER THE FARM CREDIT ACT			
Year	Number of Loans	Total Amount \$	Average \$
1962	251	3,718,100	14,813
1963	300	4,593,100	15,310
1964	357	7,124,900	19,958
1965	326	7,335,400	22,501
1966	266	6,766,000	25,436

The Ontario Junior Farmer Establishment Loan Corporation

The Ontario Junior Farmer Establishment Loan Corporation is the only Provincial agency offering directly mortgage loans to farmers between the ages of 21 to 35. Assistance up to 80 per cent of the appraised value of the farm, to a maximum loan of \$40,000 may be approved at an interest rate of 5 per cent.

In the Region, between May 31, 1963 and the end of 1964, 129 loans were provided with a total amount of \$2.8 million. The average amount of loans was \$21,700. In the two-year period 1965-1966, there were 260 approved with a total amount of \$6.9 million (the average amount was \$26,500).

Marketing Plans

A considerable portion of the sale of farm products of the Region, (winter wheat, soybeans, sugar beet, canning crops, fruits, hogs and

AGRICULTURE

milk, etc.) is regulated by marketing plans. Marketing plans are a legally constituted means for collective bargaining. Each plan must be supported by a plebiscite showing that at least 66-2/3 per cent of the producers voting are in favour of the plan.

Each marketing plan is administered by the local board of producers. Subject to the approval of the Farm Products Marketing Board, local boards are empowered to negotiate between producers and the representatives of purchasers in respect of minimum prices, forms of contracts, quality requirements, conditions of sale and shipping. Local boards directing single sales agencies are given full trading powers over the regulated farm products.

Marketing boards have considerably improved the bargaining position of farmers and made a significant contribution to the improvement of farm incomes. They have favourably influenced quality and varietal improvements of farm products, and through product promotion and market research have provided valuable information about trends and expansion possibilities. In 1964, the total farm value of agricultural products regulated by marketing plans was about \$70 million.

Contracted Production

The production of canning crops and sugar beets are undertaken on a contract basis between growers and processors. Under the terms of the contract, the growers may obtain seed or plants from the processor as well as supervision, technical assistance in insect, weed and disease control measures, and a secure market at a guaranteed price for the contracted products. Processors on their part consider contracts advantageous because they provide larger and more regular sales, and enable them to control the quantity, quality and continuity of supply of their raw material. In recent years there has occasionally been a clash of interests between growers and processors over matters such as prices, grading, shipping, etc. However, these differences have been settled through negotiations.

Extension Services

Through its local offices, the Extension Branch of the Ontario Department of Agriculture provides a wide range of services in the Region. These services are related to the problems of farm management, production practices, agricultural engineering and home economics. The agricultural representatives of the Extension Branch and specialists working with them organize conferences, field days, and junior farmer programmes. They cooperate with growers' and breeders' organizations and with research institutions and experimental stations. The activities of the Agricultural Offices in combination with the industrious spirit of the farmers, represent an important factor in the continuous improvement of efficiency and profitability of the Region's agriculture.

Western Ontario Agricultural School

The School and associated experimental farm is located at Ridgetown,

LAKE ST. CLAIR REGION ECONOMIC SURVEY

Kent County. The main objective of the School is to provide young people with practical and advanced knowledge in farming. Enrolment in the two-year course is 150 to 170. The great majority of the graduates are returning to the farm. The research activities of the School are incorporated in the program of the Agricultural Research Institute, and deal with practical problems of the Region's agriculture, such as soil fertility, variety improvement of major crops, cultural practices, feed, storage, etc.

Research Station, Harrow

The Research Station was founded in 1909 by the Canada Department of Agriculture and is situated near the town of Harrow, Essex County. The Harrow district has an earlier spring and longer growing season than any other part of Eastern Canada. Research at Harrow is concerned primarily with problems related to the production of fruits, especially peaches and early apples, vegetables and field crops with special emphasis on tobacco, hybrid corn, soybeans and sugar beets.

Research Activities of Processing Companies

The research departments of the major processing companies are working constantly to increase yields, improve the quality and resistance of crops, test new varieties and devise more efficient production methods. Through the services of the companies' fieldmen, the results are widely applied by the farmers of the Region.

Cooperative Associations

In 1962, there were 27 local cooperative associations in the Region with a total membership of about 10,000. The distribution of cooperatives over the counties is as follows:

	Number of Cooperatives	Members	Per Cent of Total Membership
Essex	12	3,556	35.1
Kent	8	3,944	38.9
Lambton	7	2,637	26.0
Total, Region	27	10,137	100.0
Source: Cooperatives Branch, Ontario Department of Agriculture, Directory of Active Business Cooperatives, 1962.			

Local cooperatives act as central marketing agencies of farm products and as wholesalers of farm supplies, machinery and consumer goods. In 1964, the total value of wheat, corn, soybeans and other grains marketed by the cooperatives of the Region was about \$12.0 million. In addition to the above mentioned functions, they provide a number of services ranging from feed-mixing and grinding to shipping and spraying.

The classification of the Region's cooperatives on the basis of volume of operations is shown in the accompanying table.

This tabulation reveals that in 1962 two-thirds of the members belonged to cooperatives with an annual volume in excess of one million dollars. Several cooperative associations in the Region that

AGRICULTURE

operate with a capital amounting to millions of dollars, hire professional staff in increasing numbers and, in general, demonstrate their viability through the expansion of their activities.

Volume \$	Number of Cooperatives		Members	
	No.	%	No.	%
Less than 100,000	6	22.2	390	3.8
100,000-1,000,000	10	37.0	3,127	30.8
1,000,000 and over	11	40.8	6,620	65.4
Total	27	100.0	10,137	100.0

CONCLUSION AND OUTLOOK

Favourable natural conditions, a steady or increasing market demand for the area's agricultural products and the wide range of institutional facilities available to farmers are some of the major factors that have led to the present structure and high level of development of agriculture in the Region. Fluctuations in each or all of these elements may lead to some modification in the established pattern. In the Counties of Essex and Kent some expansion or contraction in the total area of field crops is possible, but major changes are not likely to take place. In these counties, high land prices and competing cash crops may limit a further major expansion of beef farming. At present, the acreage of tomatoes is restricted by labour shortage. Mechanization of the harvest, if technically and economically feasible, might provide a solution to this problem. The area of tree fruits (especially peaches) is not likely to be substantially increased on account of weather hazards.

The situation is somewhat different in Lambton, as in that County there are about 250-300 thousand acres which require tile-drainage. Such a measure would considerably improve yields and increase the choice of cash crops that can be produced. Lambton County, with its extensive land area also has considerable unused capacity in the field of beef farming.

Future developments in farming will depend not only on trends within the framework of the area's agriculture but also — and perhaps to an even greater extent — on the direction of growth in other sectors of the Region's economy. Among the outside influences likely to affect agriculture, urban growth may be expected to be a major factor. Expansion of the cities will necessarily be accompanied by a contraction of the farm land areas adjacent to these population centres. It has been estimated that an average of 200 acres of rural land is required for every increase of 1,000 persons to the urban population and that an additional 100 acres will experience urban shadow effects. By 1981, the growth of Chatham, Sarnia and Windsor may thus have absorbed some 35,000-40,000 acres of rural land. The growth of smaller urban centres, the need to build highways and roads and the necessity to provide land for recreational uses will place additional demands on the rural areas in the Region.

LAKE ST. CLAIR REGION ECONOMIC SURVEY

In recognition of the prominent place occupied by the area's agriculture, the loss of prime farm lands will undoubtedly be minimized by sound land-use planning and judicious zoning provisions. The Lake St. Clair Region is one of the richest and most highly developed agricultural areas in Canada. The farmers in this part of the Province have demonstrated a remarkable adaptability in the use of mechanization, specialization and other farm-management methods and it is, therefore, expected that they will continue to make a material contribution to the sustained economic growth of the Region.

MINING, FORESTRY, FISHING AND CONSERVATION

Mining

Mining activities in the Lake St. Clair Economic Region are of relatively minor economic significance in terms of providing employment and generating income. According to the 1961 Census, employment in mines, quarries and oil well operations constituted less than one half of one per cent of the Region's total industrial labour force.

Nevertheless, the Lake St. Clair Economic Region produces an appreciable portion of a number of important minerals found in the Province of Ontario. In 1965, 68 per cent of the Province's domestic salt supply and 62 per cent of its crude petroleum and natural gas originated in the Region. Thus while no metallic minerals are mined in the Region, non-metallic minerals, fuels and structural materials are of some importance.

In 1965, the Region's total mineral production was valued at \$24 million, representing 2.4 per cent of the Province's total. Fifty-six per cent (\$13.5 million) of the value of mineral production originated in Essex County while Lambton and Kent County were responsible for twenty-eight (\$6.6 million) and 15 per cent (\$3.6 million) respectively.

VALUE OF MINERAL PRODUCTION BY MAIN GROUPS OF MINERALS, COUNTIES, LAKE ST. CLAIR REGION, 1965					
	Non- Metallic	Fuels	Structural Materials \$	Total Value	Per Cent of Ontario
A-Border					
Essex	8,106,269	136,395	5,304,467	13,547,131	1.3
Kent	—	1,634,478	1,989,889	3,624,367	0.4
Sub-total	8,106,269	1,770,873	7,294,356	17,171,498	1.7
B-Lambton					
Lambton	1,400,307	3,736,521	1,441,184	6,578,012	0.7
Total, Region	9,506,576	5,507,394	8,735,540	23,749,510	2.4



—Courtesy—Ontario Department of Tourism and Information.

A salt mine at Warwick, Lambton County.

On a sub-regional basis, Essex County produces by far the major portion (85 per cent) of the Region's output of non-metallic minerals valued at \$8.1 million in 1965. Lambton County accounts for only 15 per cent (\$1.4 million) while non-metallic minerals are totally absent in Kent County.

Only one type of non-metallic mineral—salt—is found in the Lake St. Clair Region. Total tonnage extracted in 1965 represented 2.7 million. The largest salt mine is situated at Ojibway, near Windsor, and is operated by the Canadian Rock Salt Company Ltd. Dow Chemicals of Canada Ltd. and Domtar Chemicals Ltd. (Sifto Salt Division) own and operate two salt mines located near Sarnia in Lambton County.

In addition to supplying a major portion of Ontario's salt output, the Lake St. Clair Region also produces a significant portion of the Province's fuel output (62 per cent), originating primarily in Lambton County with an output of 461,000 barrels of crude oil valued at \$1.5 million and 5.9 billion cubic feet of natural gas equivalent to \$2.3 million in 1965. Second in importance to Lambton County, in terms of fuel production, is Kent County where 137,000 barrels of crude petroleum worth \$436,000 and 3.1 billion cubic feet of natural gas valued at \$1.2 million were produced in 1965. Essex County supplies only a negligible portion of the Region's fuel output producing 41,000 barrels of crude petroleum in 1965 and 18 million cubic feet of natural gas valued at \$130,000 and \$7,000, respectively.

MINING, FORESTRY, FISHING AND CONSERVATION

The output of structural materials in the Lake St. Clair Region in 1965 was valued at \$8.7 million representing an increase of 61 per cent over the 1958 output level. The composition of structural materials extracted in 1965 was as follows: sand and gravel accounted for 37 per cent, lime for 31 per cent, limestone for 16 per cent and clay products for 16 per cent. Essex County is the major producer of structural materials accounting for 61 per cent of the Region's output in 1965, while Kent and Lambton County were responsible for 23 per cent and 16 per cent, respectively.

Fishing

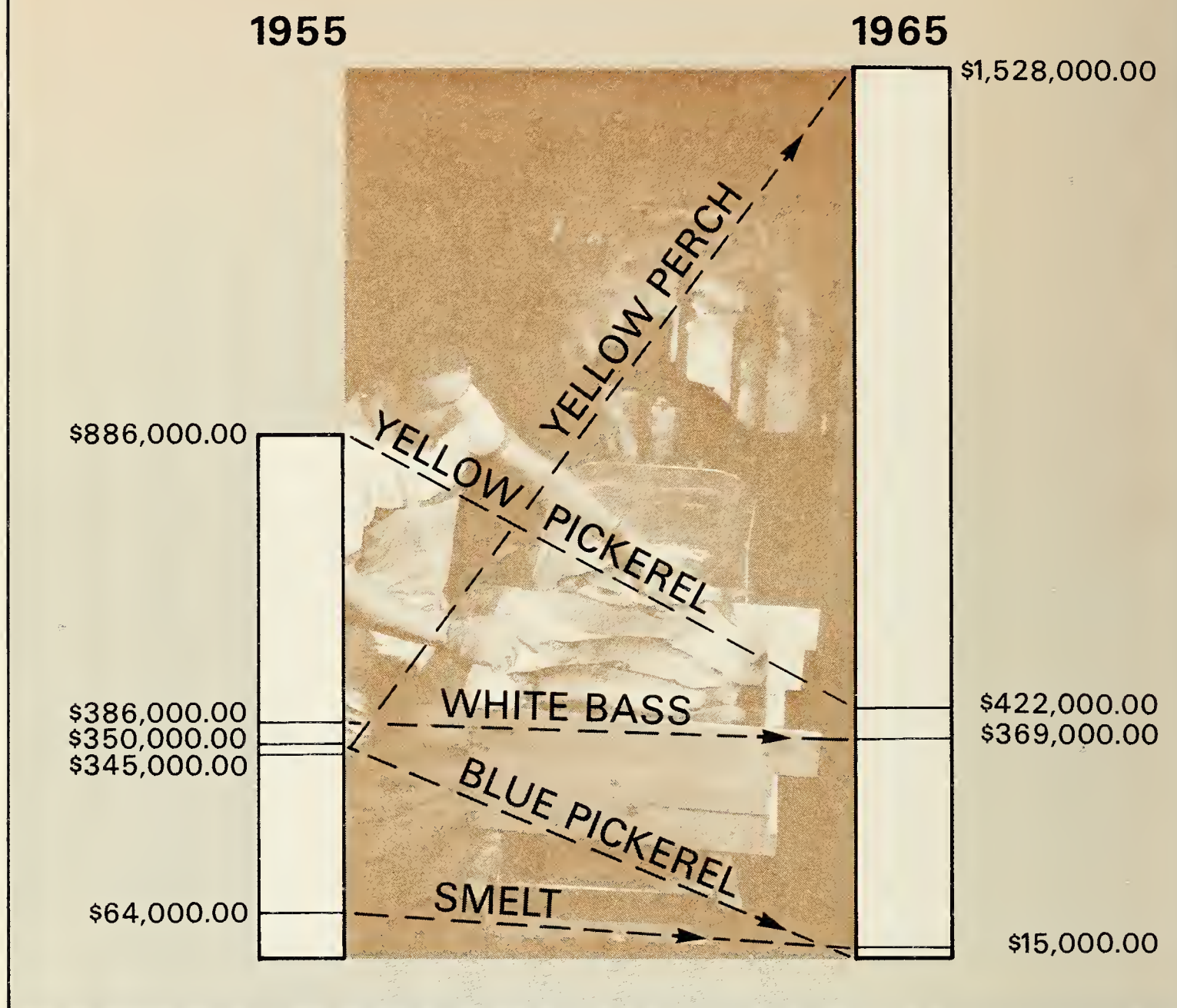
The value of the 18 million lbs. of fish caught off the Lake St. Clair Region in 1965 amounted to \$2.5 million. The major ports of landing were Wheatley, accounting for 6.8 million lbs., 4.7 million lbs. were landed in Kingsville, and 3.3 million lbs. in Erieau and Rondeau Bay.

Oil drilling in Lake Erie near Port Alma.

—Courtesy—Ontario Department of Tourism and Information.



CHANGES IN PRODUCTION VALUE OF FISH SPECIES LAKE ST. CLAIR REGION



Of the Region's three counties, Kent County was by far the most important both in terms of quantity and value of fish caught, registering a haul of 10.9 million lbs. in 1965 valued at \$1.3 million. Second in importance was Essex County with a catch of 6.4 million lbs. representing a gross value of \$990,000. Lambton County's contribution to the over-all catch is of minor significance, landing only 726 thousand lbs. of fish in 1965 equivalent to \$246,000.

Most of the industry's output in 1965 was accounted for by Yellow Perch (\$1.5 million) and Yellow Pickerel (\$422,000) while White Bass was third in order of importance with \$369,000.

The composition of species caught off the Lake St. Clair Region has altered significantly during the decade with several of the more commercially valuable species such as Pickerel and Smelt declining in importance, while the lower priced Perch has become the predominate species. Nevertheless, in terms of aggregate volume and value of fish caught, there has been little change during the period, indicating that

MINING, FORESTRY, FISHING AND CONSERVATION

the Region's fishing industry has remained stationary. Moreover, since the value of the industry's output has remained virtually unchanged over the past ten years, it is apparent that in terms of real income, the fishing industry has declined in importance.

COMMERCIAL FISH PRODUCTION OF IMPORTANT SPECIES, LAKE ST. CLAIR REGION, 1955 AND 1965				
Species	1955		1965	
	lbs.	\$	lbs.	\$
Yellow Perch	2,689,000	345,000	11,902,000	1,528,000
Yellow Pickerel	4,702,000	886,000	824,000	422,000
White Bass	3,863,000	386,000	2,356,000	369,000
White Fish	186,000	107,000	150,000	85,000
Catfish	217,000	38,000	167,000	35,000
Sturgeon	23,000	27,000	15,000	18,000
Carp	634,000	26,000	335,000	17,000
Smelt	1,594,000	64,000	403,000	15,000
Sheepshead	672,000	10,000	922,000	14,000
Sunfish	34,000	4,000	48,000	11,000
Suckers	294,000	11,000	139,000	8,000
Rock Bass	15,000	2,000	35,000	7,000
Blue Pickerel	2,918,000	350,000	—	—
Lake Herring	108,000	31,000	—	—
Saugers	74,000	10,000	—	—
Bullhead	27,000	3,000	—	—
Total		2,300,000		2,529,000

Several major independent fishing companies are located in the Region of which Omstead Fisheries Ltd. of Wheatley is the largest, employing approximately 200 people. Others are John Stewart Fisheries of Kingsville providing employment for more than 60 seasonal workers and the Pejay Packing Company of Erieau where 24 people are employed. In addition, independent fishermen operate in the Region while others are affiliated with the two local fishermen's cooperatives established at Rondeau and Kingsville.

In 1965, the fishing industry in the Lake St. Clair Economic Region invested a total of \$3.7 million in vessels, gear and shore installations.

Forestry

Forestry in the Lake St. Clair Economic Region is of minor importance. Of the Region's total land area (18 million acres), less than 9 per cent is under forest with only 5.7 per cent classified as productive forest land.

It is not surprising, however, that only a negligible portion of the Region's rich fertile land area should be devoted to forestry since the returns from other economic activities, in particular agriculture, are much greater.

On a county basis, Lambton County possesses the largest productive forest area (66,300 acres) while Kent and Essex County have 24,306 and 10,856 acres respectively.

LAKE ST. CLAIR REGION ECONOMIC SURVEY

In 1963, five of the Region's eighteen sawmills reported lumber production of a magnitude of some 3 million board feet, with elm accounting for almost 50 per cent and maple and oak for 38 per cent, the remaining 12 per cent being accounted for by ash, basswood, beech and others. The relatively large production of elm lumber is partially explained by the high incidence of Dutch Elm disease in the Province, encouraging producers to market this species before it becomes valueless.

TOTAL LAND AREA AND FORESTED LAND, COUNTIES, LAKE ST. CLAIR REGION					
	Total Land Area acres	Productive acres	Forested Land % Non-Productive	acres	%
Essex	446,696	10,856	2.4	7,302	1.6
Kent	594,374	24,306	4.1	15,892	2.7
Lambton	726,194	66,300	9.1	24,354	3.4
Total, Region	1,767,264	101,462	5.7	47,548	2.7

The Region's secondary wood industries are relatively insignificant, employing some four hundred workers in 1962 and producing an output valued at approximately \$4 million. Similarly, the furniture and fixtures industry employed less than two hundred people with an output of \$3.2 million.

Conservation

Of the Lake St. Clair Region's three conservation authorities, the Ausable River Authority is the oldest, having been established in 1946, while Sydenham Valley Authority and the Lower Thames Valley Authority did not come into existence before the early 1960's.

The Region's conservation authorities play an important role in the economic development of the Region, being responsible for flood control, soil conservation and land use, forest conservation, water pollution, wild life, recreation, and the preservation of historical sites.

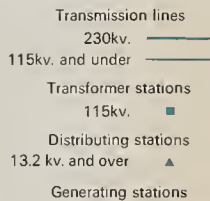
In the past, the conservation authorities have mainly been engaged in flood control. Flood control dams, reservoirs and dikes have been constructed and maintained by the authorities in an effort to prevent severe devastating flooding. In addition, the conservation authorities have implemented a number of forest conservation measures. New trees have been planted, while at the same time, steps have been taken to preserve the existing forest.

Recently, the Region's conservation authorities have been increasingly concerned with providing recreation facilities for the area, and efforts are being made to halt the threat presented by the pollution of the Lake St. Clair Region's waters.

ELECTRIC POWER FACILITIES LAKE ST. CLAIR REGION



Municipalities served by the Hydro-Electric Power Commission through municipally owned utilities or through local systems.



ENERGY

Electricity

There were seven thermal electric power generating stations in the Region in 1966 with a combined capacity of slightly less than 450,000 kilowatts. Two stations operated by The Hydro-Electric Power Commission of Ontario (HEPCO), representing 75 per cent of total regional capacity, supplied some 65 per cent of total power output while five privately-owned stations accounted for the balance.

Hydro's J. Clark Keith Generating Station, located in Windsor, has a capacity of 264,000 kilowatts. Together with an oil-fired gas turbine station in Sarnia with a stand-by capacity of 62,640 kilowatts, it generates an electricity flow equivalent to approximately 24 per cent of the Commission's total sales in the Region. However, as HEPCO's power output in Southern Ontario is fed into a grid, the actual contribution of these stations to the Region's over-all power supply varies.

The privately-owned stations are operated by Allied Chemical Canada Limited (Amherstburg), Canada and Dominion Sugar Company Limited (Chatham), Polymer Corporation Limited (Sarnia), Hiram Walker and Sons Limited (Windsor) and Ford Motor Company of Canada Limited (Windsor). The power generated by these stations is used exclusively for company purposes.

While at the present time the Region accounts for less than five per cent of the Province's total generating capacity, its relative share will increase appreciably in the future, as the Ontario Hydro Power Commission is now constructing a thermal power plant in the Town of Courtright, 14 miles south of Sarnia. Scheduled for completion in 1970 at an estimated cost of \$220 million, this station will have four 500,000 kilowatt turbo-generators with a total capacity equivalent to the combined peak requirements of Metropolitan Toronto, London and Ottawa.

In 1966, the Commission sold 3,244.9 million kilowatt hours of electric energy in the Region valued at \$31.9 million thus accounting for approximately seven per cent of the Commission's total sales and revenue.

LAKE ST. CLAIR REGION ECONOMIC SURVEY

Since 1951 industrial power consumption in the Region rose from 56 per cent to 66 per cent of the Commission's total sales while the relative shares of residential, farm and commercial consumption declined from 25 per cent to 19 per cent, from 6 per cent to 4 per cent and from 12 per cent to 10 per cent, respectively. Street lighting accounted for about 1 per cent of total power requirements throughout the period under review.

Oil

Petroleum has played an important role in the economic life of the Region since 1857, when North America's first commercial oil well went into production in Enniskillen Township, Lambton County. The Region's importance as an oil producer during these early years is illustrated by the fact that throughout the latter part of the nineteenth century the Town of Petrolia, south-east of Sarnia, was known as the Oil Capital of Canada. Although the Region has since lost its leading position in national crude oil production to Western Canada and now accounts for less than one per cent of Canada's total annual output, it continues, nevertheless, to derive considerable benefit from this industry.

In 1966, the Lake St. Clair Region's total cumulative oil production since 1857 reached 36,400,400 barrels. Lambton's share amounted to 83 per cent, while the corresponding figures for Kent and Essex were 15 and 2 respectively.

There were 856 producing wells located in the Region in 1965, 409 fewer than in 1951. Their combined output of 637,562 barrels was valued at \$2.0 million, representing increases of 262 per cent and 296 per cent, respectively, over 1951. Despite these gains the Region's share in Ontario's total oil production declined during the period from 89 per cent to 50 per cent.

Lambton County's 773 wells accounted for 72 per cent of the Region's petroleum output in 1965. Although this was 189 per cent above the level attained in 1951, it was 8 per cent below the 1961 total.

Approximately one-fifth of the crude oil produced in the Region in 1965 came from the 72 active wells located in Kent County. The Clearville Oil Field, discovered in 1962, accounts for 89 per cent of the total regional crude oil output.

Although Essex County's crude oil output in 1965 was equivalent to only 6 per cent of the regional total it was, nevertheless, 287 times larger than in 1954 due to the discovery of several new fields during the period.

Estimates prepared by the Department of Energy and Resources Management place Lambton's oil reserves at some 3.9 million barrels, while available oil supply from Kent and Essex Counties is estimated at 938,000 barrels and 126,600 barrels respectively.

Although Sarnia originally became a refining centre because of its proximity to regional oil fields, it would never have attained its present

GAS AND OIL FIELDS LAKE ST. CLAIR REGION

- Gas fields
- Oil fields
- Gas fields used for storage



Source: Department of Energy and Resources Management

ENERGY

level of development if it had not been able to draw upon other sources of supply. Prior to the completion of the Inter-provincial Pipeline from Edmonton to Superior, Wisconsin in 1951, foreign producers, chiefly American, supplied the major portion of its crude oil requirements. Since then, however, the oil fields of Western Canada became progressively more important. The extension of the pipeline from Superior to Sarnia in 1954 reinforced this trend, as did the adoption of the National Oil Policy in 1961. As a result, Canada's Western Provinces now account for well over 90 per cent of the crude oil processed in the Sarnia area.

Natural Gas Production

Reflecting the close physical association of natural gas with the location of oil wells, the Region also produces considerable quantities of gas fuel. From 1889, the year of the initial discovery of oil in Essex County, to the end of 1965, approximately 458 billion cubic feet of natural gas were extracted from the Region's oil wells. Sixty-seven per cent of this total was produced in Kent County, while the Counties of Lambton and Essex accounted for 28 per cent and 5 per cent, respectively.

The 357 active wells located in the Region in 1965 yielded 9.1 billion cubic feet of natural gas valued at \$3.5 million. Lambton County's 57 producing wells accounted for approximately 65 per cent of the Region's 1965 gas output. This was almost two and one-half times more than was produced in 1951—a fact which serves to illustrate the importance of the contribution made by Dawn 156, the Province's most productive gas field.

There were 290 producing fields in Kent County in 1965 with a combined output equivalent to 35 per cent of the Regional total, while Essex County's 10 active gas wells accounted for less than one per cent of the Region's 1965 gas output.

The Department of Energy and Resources Management estimates that an additional 122 billion cubic feet of natural gas can be produced in the Region before its reserves are exhausted. Lambton's share of this total will amount to roughly 53 per cent, while Kent will account for virtually all of the balance.

Processing

The three natural gas processing plants located in the Lake St. Clair Region are the only establishments of this type in the Province. The largest of these is located in Port Alma, Kent County and is operated by the Union Gas Company of Canada Limited. Capable of processing 16 million cubic feet of raw gas every day, this plant is presently being utilized for the removal of acid gas. Both of the remaining plants are operated by Imperial Oil Limited in Corunna, Lambton County. With a combined daily raw gas capacity of 5 million cubic feet, they are engaged in the removal of liquid hydro-carbons.

LAKE ST. CLAIR REGION ECONOMIC SURVEY

Distribution

Union Gas Company of Canada Limited is the sole distributor of natural gas in the Lake St. Clair Region but is also engaged in the production, storage and transmission of natural gas.

Although Union operates its own wells in the Region and purchases a considerable volume of natural gas from other local producers, it now obtains most of its gas supply from Western Canada by means of the Trans Canada Pipeline. In addition, the Panhandle Eastern Pipeline Company supplies it with comparatively small quantities of gas produced in the southern United States.

Western gas is delivered to the Union transmission network at a point near Oakville and is then transmitted over a 142 mile, 26 inch pipeline to the Company's storage fields in Dawn Township, Lambton County. It is the Company's intention to eventually "twin" this line with a 34 inch pipeline, the western half of which is already completed and in service. Market conditions will determine the pace at which the pipeline is extended eastwards.

Trans Canada recently obtained permission from the American Federal Power Commission to construct a 1,000 mile, 36 inch pipeline from Emerson, Manitoba via the United States to Sarnia which is scheduled for completion in 1968.

Conveyed into this country by a series of pipelines crossing the Detroit River at Ojibway, American gas is delivered to the Company's Dawn Township storage fields by means of a 66 mile, 16 inch pipeline. The terms of Union's contract with Panhandle Eastern insure that gas from this source will be available to the Company until 1976.

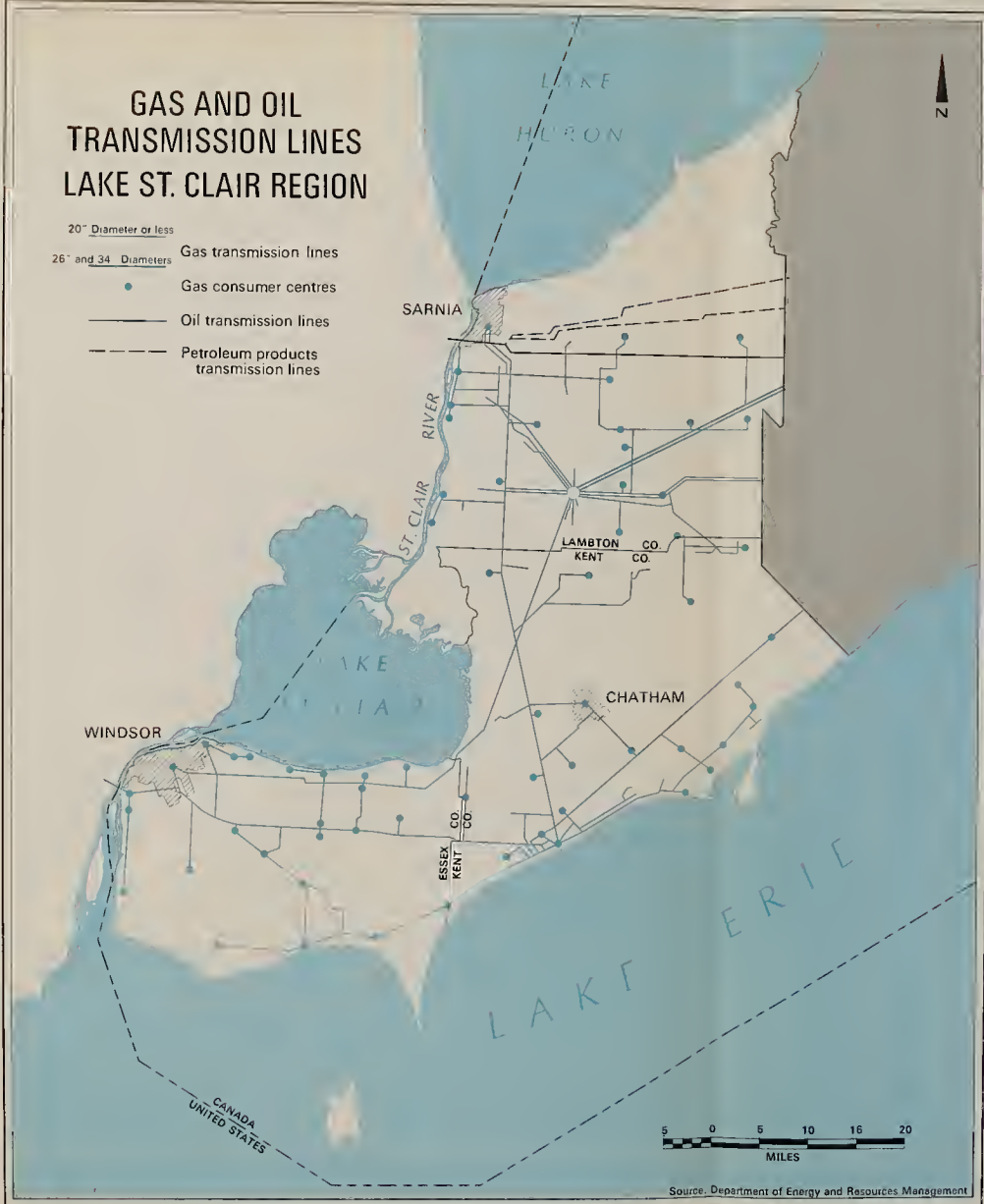
Union's storage facilities are worthy of special mention since they constitute perhaps the most unique feature of the Company's operations. Their singularity stems from the fact that they include, in addition to smaller conventional installations in Windsor and Sarnia, six formerly productive gas pools with a combined storage capacity of 76.4 billion cubic feet. Situated in Lambton County, these pools are of considerable advantage to the Company since they enable it to store a large proportion of the gas delivered by its suppliers during the off-peak summer months, thereby guaranteeing its ability to cope with the sharp increase in demand which takes place with the onset of cool weather.

Forty-four widely-scattered cities, towns and villages in the Region are now served by Union's distribution system. On March 31, 1965, the Company had 105,175 customers in the Region, 13 per cent more than on the same date in 1960. Windsor, Sarnia and Chatham accounted for roughly one-half of this total, their individual shares amounting to approximately one-quarter, one-eighth and one-twelfth, respectively.

On average slightly less than ninety-one per cent of the Company's customers in the Region fall into the residential category while the relative shares of commercial and industrial users amount to about eight per

GAS AND OIL TRANSMISSION LINES LAKE ST. CLAIR REGION

- 20" Diameter or less
26" and 34" Diameters
- Gas transmission lines
- Gas consumer centres
- Oil transmission lines
- Petroleum products transmission lines



cent and one per cent, respectively.

Energy Projections

Reflecting the expansion in economic activity in the Region, demand for natural gas is expected to increase from 20.3 billion cubic feet in 1965 to some 42.7 billion cubic feet by 1976, equivalent to a growth of 7.00 per cent per annum. Most of the growth is likely to take place in the industrial and commercial sectors accompanied by a relative decline in the residential consumption of gas.

NATURAL GAS CONSUMPTION, LAKE ST. CLAIR REGION, 1960-1965 AND 1976			
Year	Billion Cubic Feet	Year	Billion Cubic Feet
1960	14.2	1964	18.0
1961	14.6	1965	20.3
1962	16.7	1976 (estimated)	42.7
1963	18.5		

Based on recent trends, demand for electric energy will increase from 3,200 million kilowatt hours in 1965 to some 6,700 kilowatt hours of electricity by 1976 representing an annual average growth of 7.00 per cent during the forecast period. Industrial consumption of electric

ELECTRIC ENERGY CONSUMPTION, LAKE ST. CLAIR REGION, 1951, 1961-1965 AND 1976			
Year	Million KWH	Year	Million KWH
1951	1,154.5	1964	2,759.9
1961	2,431.0	1965	3,200.0
1962	2,520.4	1976 (estimated)	6,700.0
1963	2,768.9		

energy including privately-owned stations will account for approximately 66 per cent to 70 per cent of the regional total in 1976, while the respective shares of the domestic and commercial sectors are expected to show only relatively minor changes.

MANUFACTURING

The diversity of natural resources and an advantageous geographical location have been the major factors generating industrial growth in the St. Clair Region. The excellent soils and favourable climate yield a wide range of agricultural products for processing while the deposits of crude oil initiated the development of an extensive petrochemical industry. In addition, a large complex of automobile and transportation equipment industries has been attracted to the Region as well as other industries producing a broad range of products including machinery, building materials, clothing, furniture and electrical and glass products. Industrial growth has also been stimulated by the Region's strategic location on the crossroads of an extensive network of rail, road and water routes while its proximity to the United States has facilitated access to technical skills, raw materials and concentrated markets.

A total of 799 manufacturing establishments were located in the St. Clair Region in 1962, with annual shipments valued at over \$1,258 million representing 9.4 per cent of Ontario's manufacturing output. Approximately 43,250 persons are employed by the Region's manufacturing plants.

Although a wide range of industries is located within the Region, four industrial groups account for 83 per cent of the regional manufacturing output and 70 per cent of the industrial employment. Of the four, the transportation equipment industry group comprises the largest portion, accounting for 28 per cent of the Region's manufacturing output in 1962 and providing jobs to almost one-third of the industrial work force. The petroleum and coal products group ranks second in terms of output, with 20 per cent of the regional total; however, being highly capital-intensive, it employs only 14 per cent of the manufacturing workers. The food and beverages group accounts for almost one-fifth of the output and the same proportion of workers, while the chemical and chemical products group accounts for 16 per cent of the output and 14 per cent of the industrial employment.

These four groups also comprise a large part of the total Ontario production in their respective categories. The Region's petroleum and

MANUFACTURING

coal products industries comprised 60 per cent of the Provincial total in 1962, the chemical and chemical products accounted for 19 per cent, and the transportation equipment and the food and beverages represented 17 and 10 per cent respectively.

MAJOR INDUSTRY GROUPS, LAKE ST. CLAIR REGION, 1962							
	Establish- ments No.	Employees No.	% of Region	Salaries and Wages (\$000's)	Value of Factory Shipments (\$000's)	% of Region	% of Ontario
Transportation Equipment	46	13,840	32	80,367	347,849	28	17
Petroleum & Coal Products	3	1,894	4	12,011	253,454	20	60
Foods & Beverages	204	8,742	20	35,956	242,170	19	10
Chemical & Chem. Prods.	42	5,937	14	35,937	204,199	16	19
Metal Fabricating	146	4,802	11	23,527	73,792	6	7
Total, Region	799	43,251	100	220,655	1,258,706	100	100

The growth of the Region's manufacturing output during the period 1957 to 1962 lagged behind the Ontario average. In 1958, a decline in the output of the automotive and transportation equipment industry due to the recessionary conditions prevailing throughout Canada at the time and a decrease in demand had significant repercussions throughout the Region's economy. Manufacturing output decreased 6.5 per cent from \$1,204 million in 1957 to \$1,126 million in 1958. Since 1958, there has been an upward trend with total output increasing 11.7 per cent in 1962 over the 1958 level. In comparison, Ontario's output increased 26.1 per cent over the same period.

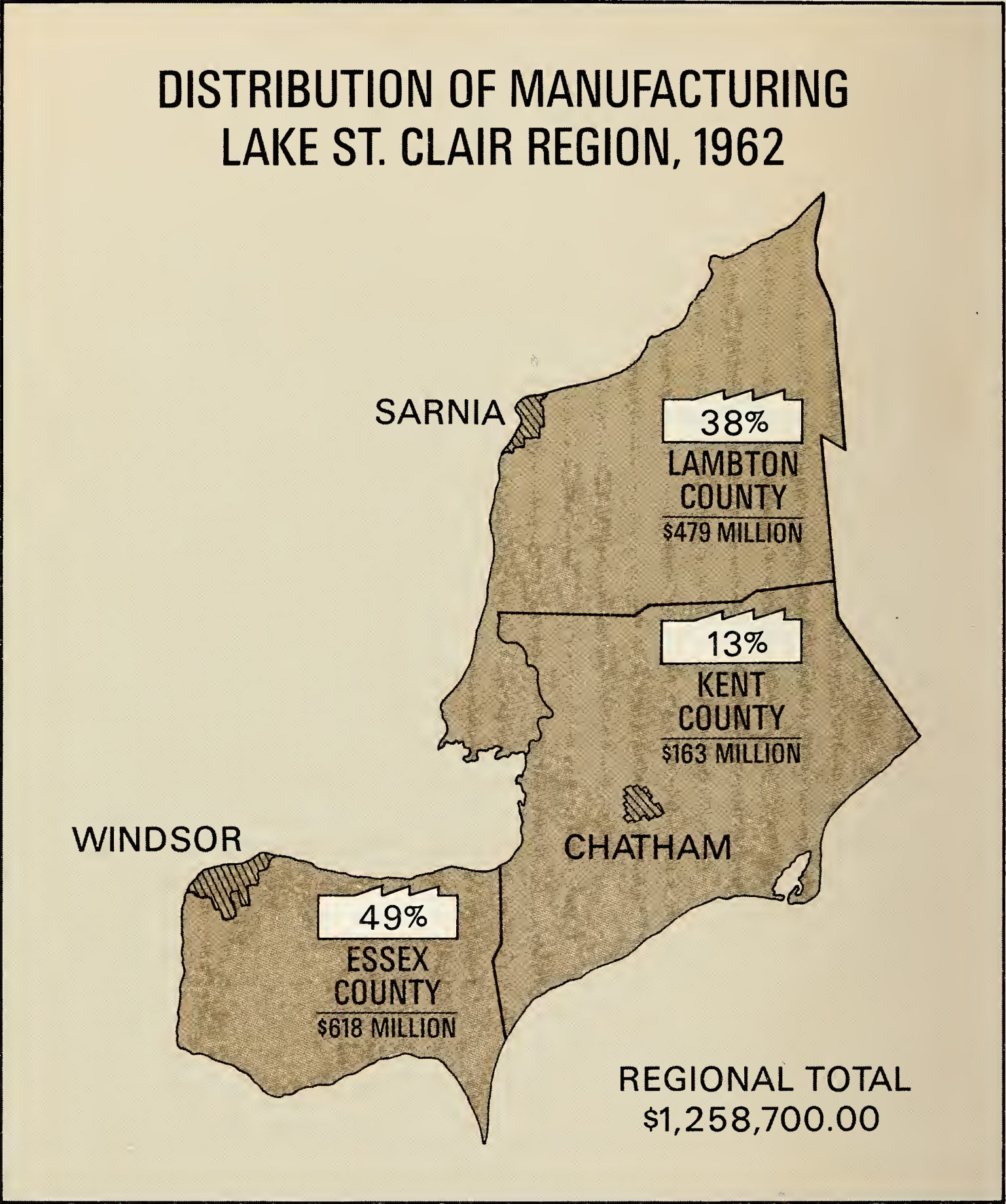
Reviewing specific industry groups in the Region during the period 1957 to 1962, it is evident that while the output of the transportation equipment industry, primary metal, machinery and metal fabricating industries declined from the 1957 level, the other industries showed substantial increases in output. The most notable increases were achieved by the manufacturers of tobacco products and furniture with output up 63 per cent and 41 per cent respectively. Substantial increases were also attained by major groups such as food and beverages, chemical, and the petroleum and coal products industries whose output rose by 39 per cent, 33 per cent and 26 per cent respectively.

It is significant to note that the automotive and transportation equipment industry resumed its growth after 1958 with output increasing 16 per cent over the 1958 level by 1962. Similarly, production of machinery rose by 28 per cent accompanied by an 11 per cent increase in the output of the metal fabricating industry and a 5 per cent increase in the production of the primary metals industry.

The Canada-United States Automotive Free Trade Agreement, effective since January, 1965, has greatly stimulated the transportation equipment industry and the industries supplying this group with parts

LAKE ST. CLAIR REGION ECONOMIC SURVEY

and materials in the St. Clair Region. During the last two years, considerable reorganization and plant expansion has occurred in the Region's automotive plants and in addition, capacity has been substantially expanded in the industries producing fabricated metal products, steel,



rubber, textiles, plastic and glass products. A survey conducted by the Trade and Industry Branch of the Ontario Department of Economics and Development indicated that during the two years in which the Agreement has been in effect, new investment in plant and facilities for the production of automobiles, transportation equipment and parts amounted to \$154 million which created 4,300 new jobs.

MANUFACTURING

Geographical Distribution of Manufacturing

Essex and Lambton are the more heavily industrialized counties in the Region. Together they account for 87 per cent of the Region's manufacturing output and provide jobs to 84 per cent of the industrial work force. In 1962, Essex had 484 plants producing an output valued at \$618 million, or 49 per cent of the regional total and Lambton, with 126 plants, accounted for \$479 million or 38 per cent. In comparison, there were 189 manufacturing establishments in Kent with shipments of \$163 million equivalent to 13 per cent of the regional total.

Essex County employs a much larger proportion of people than is suggested by its value of manufacturing output. In 1962, approximately 62 per cent of the Region's industrial work force were employed in Essex compared with 22 per cent in Lambton and 16 per cent in Kent.

MANUFACTURING, LAKE ST. CLAIR REGION BY COUNTY, 1962								
	Establish- ments % of		Employees % of		Salaries and Wages % of		Value of Factory Shipments % of	
	No.	Region	No.	Region	(\$000's)	Region	(\$000's)	Region
Essex	484	60	26,758	62	137,692	62	617,644	49
Kent	189	24	7,000	16	28,822	13	162,544	13
Lambton	126	16	9,493	22	54,141	25	478,518	38
Total, Region	799	100	43,251	100	220,655	100	1,258,706	100

Three centres—Windsor, Leamington and Amherstburg—account for 88 per cent of the manufacturing output in Essex. Having two-thirds of the County's plants, they provide jobs for 86 per cent of the industrial work force. Of the three manufacturing centres, the Greater Windsor area is the most significant with its extensive automotive and transportation equipment industry, metal fabricating plants and foundries. In 1962, the manufacturing output of the Greater Windsor area was valued at \$464 million or 75 per cent of the County total and industrial employees numbered 20,000 persons or 75 per cent. The relatively higher wage rates paid to the skilled labour in the automotive and related industries is

MANUFACTURING IN ESSEX COUNTY BY MAJOR CENTRES, 1962								
	Establish- ments % of		Employees % of		Salaries and Wages % of		Value of Factory Shipments % of	
	No.	County	No.	County	(\$000's)	County	(\$000's)	County
Windsor	289	60	20,076	75	109,732	80	463,773	75
Leamington	20	4	2,298	9	9,443	7	53,485	9
Amherstburg	11	2	636	2	2,796	2	21,786	4
Total, Essex County	484	100	26,758	100	137,692	100	617,644	100

LAKE ST. CLAIR REGION ECONOMIC SURVEY

reflected in the fact that 80 per cent of the total Essex manufacturing payroll was earned by employees in Windsor.

Leamington and Amherstburg, noted primarily for food and beverage manufacturing, produced 9 per cent and 4 per cent respectively, of the County's manufacturing output.

Lambton's dominant centre is Sarnia, noted for its heavy concentration of petrochemical plants. Sarnia has 49 manufacturing establishments representing 39 per cent of Lambton's total, however, their manufacturing was valued at \$369 million, or 77 per cent of the County total. Sarnia employed 73 per cent of Lambton's industrial work force earning 78 per cent of the County's total manufacturing payroll.

MANUFACTURING IN SARNIA, 1962								
	Establish-ments		Employees		Salaries and Wages		Value of Factory Shipments	
	No.	% of County	No.	% of County	(\$000's)	% of County	(\$000's)	% of County
Sarnia	49	39	6,953	73	42,231	78	368,798	77
Total, Lambton County	126	100	9,493	100	54,141	100	478,518	100

Kent's major manufacturing centres are Chatham and Wallaceburg. Chatham has 80 plants producing a diversity of commodities including food products, automotive parts and transportation and agricultural equipment. Wallaceburg has 30 plants producing food, glass and metal products. Chatham's manufacturing output of \$108 million, in 1962, represented 66 per cent of the County total. In comparison, Wallaceburg's production was valued at \$27 million or 16 per cent.

Approximately 49 per cent of the industrial work force in Kent is employed in Chatham and 28 per cent in Wallaceburg. In the two centres combined, the industrial workers earned 81 per cent of all the wages and salaries paid in Kent County during 1962.

MANUFACTURING IN KENT COUNTY BY MAJOR CENTRES, 1962								
	Establish-ments		Employees		Salaries and Wages		Value of Factory Shipments	
	No.	% of County	No.	% of County	(\$000's)	% of County	(\$000's)	% of County
Chatham	80	42	3,407	49	15,657	54	108,012	66
Wallaceburg	30	16	1,933	28	7,845	27	26,677	16
Total, Kent County	189	100	7,000	100	28,822	100	162,544	100

In summary, the manufacturing industries in the Lake St. Clair Region are concentrated in three major centres—Windsor, Sarnia and Chatham. Together, these cities provided industrial jobs for more than 30,000 persons in 1962, more than 70 per cent of the total manufacturing employment in the Region. The manufacturing output of these three

MANUFACTURING

centres was valued at \$941 million or 75 per cent of the regional total. Of this total, Windsor's production represented 37 per cent, while the manufacturing output of Sarnia and Chatham constituted 29 per cent and 9 per cent respectively.

There are also three comparatively smaller manufacturing centres in the Region—Leamington, Wallaceburg and Amherstburg. In 1962, Leamington produced 4 per cent of the Region's manufacturing output while Wallaceburg and Amherstburg each accounted for 2 per cent.

The Major Industries

The **automotive and transportation equipment industry** comprises the largest industrial group in the St. Clair Region, accounting for 28 per cent of the total value of manufacturing output and providing jobs to 32 per cent of the Region's industrial work force. In 1962, there were 46 establishments manufacturing automobiles and transportation equipment in the Region. They employed 13,840 workers, paid over \$80 million in salaries and wages and their output was valued at \$348 million. Most of these firms are based in Essex and concentrated around the Greater Windsor area. A smaller number are located in Kent, in the Cities of Chatham and Wallaceburg.

It is significant to note that more than 95 per cent of the Canadian automotive industry is concentrated in the Province of Ontario, with a substantial proportion located in the Lake St. Clair Region. Historically,

An automobile assembly line in Windsor.

—Courtesy—Ontario Department of Tourism and Information.



LAKE ST. CLAIR REGION ECONOMIC SURVEY

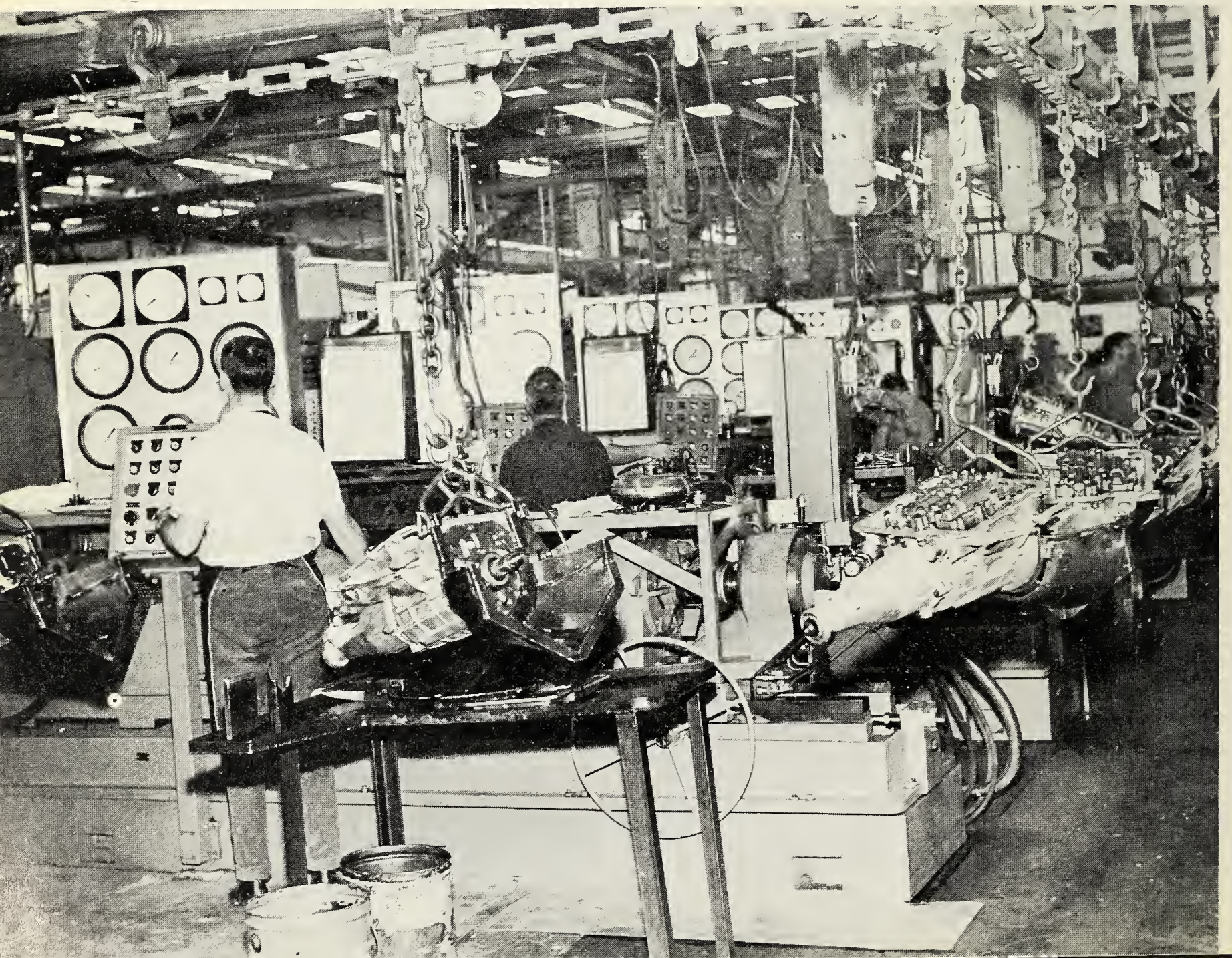
this Region played an important role in the development of the automotive industry in Canada. Canada's very first automotive plant was established in Windsor, in 1904, by a few Canadian businessmen who obtained the rights to produce and distribute Fords throughout the British Empire, outside of the United Kingdom. In 1909, Everett-Metzger-Flanders became established at Walkerville, subsequently becoming Studebaker in 1911. The International Harvester Co. of Canada Ltd., agricultural implement producers, took over the Chatham Wagon Works in 1911 and produced the first truck in Chatham in 1920.

The St. Clair Region and in particular, the Greater Windsor area, is noted for its manufacture and assembling of cars, trucks and jeeps, and for the manufacture of automotive parts such as spark plugs, spring seats, brakes, electric lamps and other products. In addition, there is a substantial number of firms in the Region, not classed as part of the automotive industry but which supplies this industry with forgings, fabricated steel products, plastics, and other products.

The three big automotive concerns—Chrysler, Ford and General Motors—are located in the Greater Windsor area. **Chrysler Canada Ltd.** is the Region's largest industrial employer. Located on almost 2½ million square feet of plant space, this firm produces motor cars, trucks and engines. **Ford Motor Co. of Canada Ltd.** produces engines and standard transmissions. **McKinnon Industries Ltd.** a subsidiary of General Motors

Testing of automatic transmissions under simulated driving conditions at the Windsor plant of McKinnon Industries Ltd.

—Courtesy—McKinnon Industries Ltd.



MANUFACTURING

and Windsor's third largest employer, produces both automatic and standard transmissions.

In Windsor is also located the **Canadian Motor Lamp Co. Ltd.** manufacturing wheel covers, hub caps, head-lamps and various stampings. The **Champion Spark Plug Co. of Canada Ltd.**, a subsidiary of the Ohio parent company, and part of a world-wide organization, makes spark plugs. **Bendix-Eclipse of Canada Limited** produces starter drives, brakes, hydraulic master and wheel cylinders, and other automotive service products.

The Greater Windsor area has about 165 companies which are related to the automotive industry. Approximately 60 per cent of all the automotive and transportation equipment companies are independent Canadian operations. In 1965, about 63 per cent of Windsor's industrial work force was employed in the automotive and transportation equipment and related industries.

In Amherstburg, **SKD Manufacturing Co. Ltd.** produces parts and metal stampings for the automotive industry and agricultural implements.

In Kent County, Chatham is the location of the **International Harvester Co. of Canada Ltd.** which produces motor trucks and **Ontario Steel Products Co. Ltd.**, manufacturer of automotive bumpers, springs and torsion bars.

The employees in most of the automotive and transportation equipment industries are highly skilled. Training programmes have been instituted by many of the firms. Recruitment is from the vocational schools in the area, including the Western Ontario Institute of Technology, a new educational institution located in Windsor. The companies draw on the University of Windsor and other universities to fill their growing requirements for technical and management personnel.

The wages in the automotive and transportation equipment industries are relatively high. This is reflected in the fact that Windsor ranked fourth highest in a comparison of average income among personal income taxpayers in Canadian cities in 1963.

The automotive and transportation equipment industry exports to the United Kingdom, the United States, Germany, France, Brazil, South Africa and Australia. The volume of exports varies as to firm and type of products but the markets are growing in all these areas except in Australia and South Africa where recent legislation has been passed to encourage a domestic automotive and transportation equipment industry.

The growth of the Region's automotive and transportation equipment industry slackened during 1958 concomitant with national trends in this industry. Among the contributing factors were the recessionary economic conditions prevailing throughout Canada at the time, the decrease in national automobile sales, the rising demand for European car imports, and plant consolidations and reorganizations. However, since 1958, there has been an upward trend with manufacturing output increasing

LAKE ST. CLAIR REGION ECONOMIC SURVEY

16 per cent by 1962 over the 1958 value. As a result of new technology and increased automation, employment in this industry has decreased since 1958 at an average of about one and one-half per cent per year.

THE AUTOMOTIVE AND TRANSPORTATION EQUIPMENT INDUSTRIES LAKE ST. CLAIR REGION, 1962							
Year	Establish- ments No.	Employees No.	Salaries and Wages (\$000's)	Fuel and Electricity (\$000's)	Cost of Materials Used (\$000's)	Total of Major Cost Factors* (\$000's)	Selling Value of Factory Shipments (\$000's)
1957	43	20,868	88,994	4,017	263,953	356,963	407,675
1958	43	14,902	73,034	3,438	187,863	264,335	299,106
1959	42	16,266	85,386	3,908	196,666	285,960	331,801
1960	44	15,005	80,737	3,800	215,458	299,996	346,363
1961	43	14,184	77,721	3,826	192,313	273,860	308,286
1962	46	13,840	80,367	3,888	221,561	305,816	347,849
*Salaries and wages, fuel cost and materials used.							

In more recent years, the growth of the automotive and transportation equipment industry in the Region has been accelerated by the effects of the Automotive Free Trade Agreement signed between Canada and the United States. When this Agreement became effective in January 1965, it was anticipated that it would encourage Canadian producers of automobiles and parts to specialize and achieve greater efficiency and lower unit costs and as a consequence, to expand their output by one-third over the 1964 level by 1968 and secure an additional 3½ per cent of the North American market.

In the St. Clair Region, a survey undertaken by the Trade and Industry Branch of the Ontario Department of Economics and Development indicated that in the two years following the Agreement, new investment in plant and facilities for the production of automobiles, transportation equipment and parts amounted to \$154 million and represented one-third of the comparable total Provincial investment. As a direct consequence, approximately 4,300 new jobs were created in the Region. There has also been considerable plant reorganization and modernization in response to the changing structure of the market.

Among the modernization projects is the new General Motors' \$20 million automotive trim plant in Windsor, the most modern of its kind in the world, employing a staff of 1,750. The Ford Motor Co. of Canada in Windsor made changes during 1965 in its high volume transmission chassis production involving an investment of \$2 million. In addition, adjustments were made to include high speed casting and the production of a new series of engines. Chrysler Canada Ltd. has made additions to its plant capacity for expanding its passenger car and truck facilities in Windsor involving \$12 million.

The expansion in the automotive and transportation equipment group has had repercussions on the industries supplying it with parts and

MANUFACTURING

materials. Plant capacity has been expanded in the industries producing steel, fabricated metal products, rubber, textiles, plastics and glass products. SKD Manufacturing Co. Ltd., producer of parts and metal stampings in Amherstburg, spent more than one-half million dollars in 1965 installing two presses and constructing another building. The Kelsey Wheel Co. Ltd., an established producer of wheels and pins for automobiles and trucks for over 50 years, completed an expansion programme valued at \$5 million in 1965. In addition, Polymer Corporation Limited in Sarnia and Canadian Industries Limited, have announced large expansions of their plastics divisions. Purchases and intentions to buy land in Chatham were announced by two American companies working in the automotive field.

In general, it is expected that as a result of the Automotive Free Trade Agreement, plants in the automotive and transportation equipment group will specialize and expand their markets. However, some companies, particularly the smaller manufacturers of parts, may suffer in the face of import competition from larger and more efficient United States plants, unless they are able to diversify their markets and supply industries outside the automobile assemblers.

An important consequence of the Automotive Free Trade Agreement has been the improvement of Windsor's advantageous position on the Canada-United States border. In 1965, Windsor was officially designated part of the Detroit commercial area and trucks no longer have to pay international trucking fees between the two cities. As a result, access from Windsor to the markets in Detroit and other points in the United States has been greatly facilitated.

The **petroleum industry** in the Lake St. Clair Region is concentrated in Lambton County. This was the site of North America's first commercially significant oil field, in 1857, and Canada's first commercial oil refinery. During the succeeding years, the pace of development was so rapid that by 1864, the Petrolia-Oil Springs area alone could boast of hundreds of producing wells and at least 15 refineries. These refineries were utilized for the production of lamp oil and asphalt, since a commercial application had not been developed, as yet, for gasoline.

Sarnia, which had previously derived very little benefit from this development, began to feel its full impact in 1897, when the **Imperial Oil Company Limited** (now Imperial Oil Ltd.), having purchased a refinery built twenty-six years earlier by the Dominion of Canada Oils Refinery Company Limited, transferred its refining operations to Sarnia from Petrolia. During the next thirteen years — a period which witnessed the introduction of the automobile — the plant's crude run increased by 587 per cent, finally attaining over 2,400 barrels per day. This, together with the through-put of the refinery operated by the **Canadian Oil Company Limited** in Petrolia, made Lambton County the foremost petroleum refining centre in the Province.

LAKE ST. CLAIR REGION ECONOMIC SURVEY

The industry expanded at an impressive pace during the interwar years, due to the phenomenal increase which took place in the demand for gasoline. Towards the end of this period, however, the Region received a new impetus as techniques were developed for the extraction and commercial utilization of the chemical constituents of crude oil. From the Region's standpoint, the importance of this development was not only the resulting increase in the demand for petroleum products, but also in the preference of the manufacturers of the new petrochemical products for locations close to oil refineries.

At present there are three petroleum refineries in the St. Clair Region. The **Imperial Oil Ltd.** refinery is the largest in Canada, employing some 1,400 persons and has a daily crude capacity of 94,000 barrels. The company produces a full range of petroleum products, numbering over 700 in total.

A modernization programme requiring the expenditure of approximately \$25 million was recently started at this site. It calls for the construction of a fluid coker, electric desalter and other facilities. At the present time, the plant's replacement cost is estimated to be in excess of \$100 million.

The refinery operated by **Shell Canada Limited** in Corunna was built in 1952 by the Canadian Oil Company Limited as a replacement for its Petrolia plant. It came under its present management in 1963 when Shell absorbed Canadian Oil. Capable of processing 40,000 barrels of crude per day, this plant is operated by a staff of 380 people and represents a capital investment of approximately \$48 million. Its output consists primarily of gasoline, distillates, heavy fuel oils and petrochemical feed.

The **Sun Oil Co. Ltd.** refinery in Sarnia was built in 1952 and has a daily crude capacity of 30,000 barrels. The refinery's production includes gasoline, kerosene, stove oil, light and heavy fuel oil and petrochemical feed. In 1966, a depropanizer unit was completed and work was begun on a gas plant and an hydrofluoric acid alkylation unit which are scheduled for completion during 1967. These three projects require the expenditure of roughly \$5 million — enough to increase Sun Oil's total capital investment at this site by approximately one-fifth. In addition, the firm announced a \$2 million plant modification programme in 1967, designed to handle, for the first time, synthetic crude oil extracted from the Athabaskan tar sands in Alberta.

In 1962, the output of the Region's three petroleum refineries was valued at \$253.5 million, 26.1 per cent more than in 1957. Consequently, their share of the Region's manufacturing total rose from 16.7 per cent to 20.1 per cent. However, they did not improve their position within the refining industry, since their share in the national refining total remained virtually unchanged, while regional refining represented only 63.4 per cent of the Ontario refinery output in 1962 compared with 71.8 per cent in 1957.



—Courtesy—Ontario Department of Tourism and Information.

The Shell Canada Ltd. refinery at Corunna.

It is significant to note that due to rapidly advancing technology and increased automation in the industry, productivity has risen with the result that labour force requirements declined by 16.8 per cent between 1957 and 1962.

In 1964, regional refineries had a combined daily crude capacity of 164,000 barrels, 37.4 per cent more than in 1957. This increase was comparable to the national growth in capacity, as the Region retained its share of the Canadian total, declining by only .1 per cent to 15.6 per cent in 1964. However, the Region's share of the Ontario total during 1957 and 1964

THE PETROLEUM REFINING INDUSTRY, LAKE ST. CLAIR REGION, ONTARIO AND CANADA, 1957 TO 1962						
	Estab- lish- ments No.	Employ- ees No.	Salaries and Wages (\$000's)	Cost of Fuel and Electricity (\$000's)	Cost at Plant of Materials Used (\$000's)	Selling Value of Factory Shipments (\$000's)
1957						
Lake St. Clair Region	3	2,276	11,985	906	165,415	200,934
Ontario	13	5,443	28,998	1,518	229,067	279,942
Canada	53	14,054	72,631	7,035	821,949	1,022,827
1958						
Lake St. Clair Region	3	2,075	11,454	1,291	171,518	205,134
Ontario	14	5,345	29,432	1,785	255,977	302,843
Canada	55	14,080	74,579	7,573	819,976	1,016,997
1959						
Lake St. Clair Region	3	1,940	11,609	1,085	181,715	217,313
Ontario	14	5,498	33,164	2,220	283,851	343,717
Canada	52	13,683	79,020	8,935	855,977	1,097,963
1960						
Lake St. Clair Region	3	1,968	11,784	1,089	172,930	225,343
Ontario	15	5,416	33,481	2,223	268,747	344,682
Canada	56	13,779	81,869	9,179	857,852	1,133,861
1961						
Lake St. Clair Region	3	1,916	11,579	1,177	176,347	238,484
Ontario	15	5,582	35,451	2,415	287,205	376,702
Canada	57	13,511	82,840	10,968	911,644	1,201,628
1962						
Lake St. Clair Region	3	1,894	12,011	1,250	198,694	253,454
Ontario	16	3,196	19,928	2,460	311,577	399,480
Canada	58	10,535	64,593	10,444	994,007	1,274,266

declined from 60.1 per cent to 53.4 per cent. Almost all of the crude processed by these refineries — approximately 58 million barrels in 1965 — comes from Western Canada via the Interprovincial Pipeline, while small quantities are obtained from local and Venezuelan producers. The domestic market west of the Ottawa River absorbs most of the regional refinery output.

SARNIA RECEIPTS OF CRUDE OIL DELIVERED BY THE INTERPROVINCIAL PIPELINE, 1954 TO 1964			
Year	Quantity (000's of Barrels)	Year	Quantity (000's of Barrels)
1954	31,323.6	1960	46,412.4
1955	33,247.8	1961	49,022.2
1956	40,478.6	1962	54,285.9
1957	37,822.3	1963	57,701.2
1958	41,448.9	1964	56,943.5
1959	45,417.6		

The **chemical and chemical products industry** in the Lake St. Clair Region consisted of forty-two manufacturers in 1962. Concentrated in Lambton County, they provided employment to 5,937 people and pro-

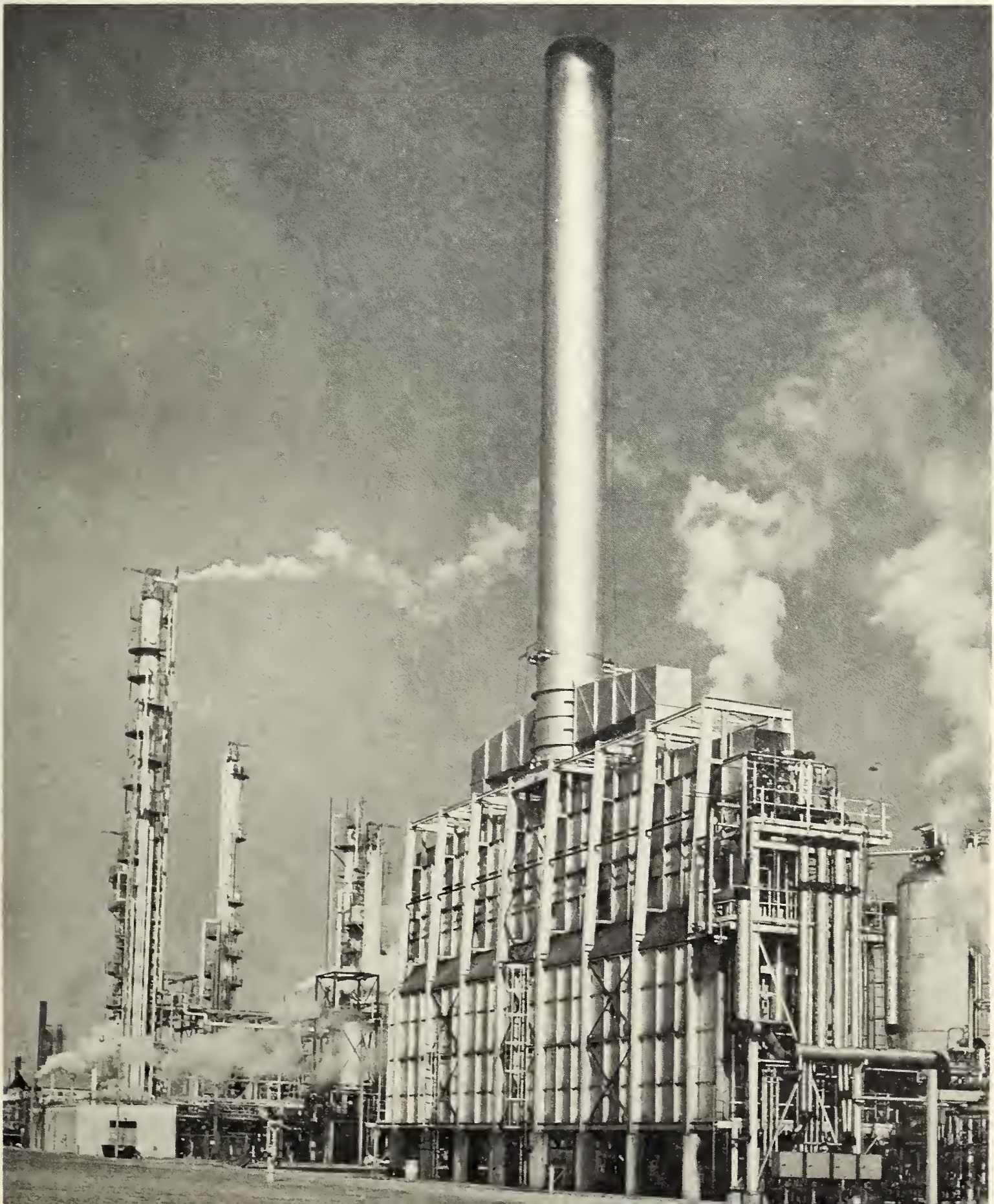
MANUFACTURING

duced an output valued at \$204 million, 16 per cent of the Region's total manufacturing output. This industry group comprised 19 per cent of the Provincial production of chemicals and chemical products and 11 per cent of the corresponding national production.

Imperial Oil Ltd. was the first oil company in the Region to manufacture chemicals when, during the late 1950's, it brought a chemical cracking unit into production on a site adjacent to its Sarnia refinery. Additional facilities have been constructed since that time, raising the Company's total investment in chemical production units to approximately \$60 million. The products produced include industrial solvents and the basic chemicals used in the manufacture of plastics, detergents, rubber fibres and numerous other synthetics. At present, an addition to the ethylene plant is being constructed at a cost of \$40 million and it was announced that new naphtha reformer and treating facilities valued at \$14 million will

Canada's first acrylonitrile plant, operated at Sarnia by Imperial Oil, began production in late 1965.

—Courtesy—Imperial Oil Ltd.



LAKE ST. CLAIR REGION ECONOMIC SURVEY

be installed during 1967-68.

The **Sun Oil Co. Ltd.** and **Shell Canada Limited** have also entered the chemical field, although on a much smaller scale than Imperial. Sun Oil's output consists entirely of butylenes, while Shell's output includes aromatic solvents, benzene, butylenes, ethane, ethylene and sulphur.

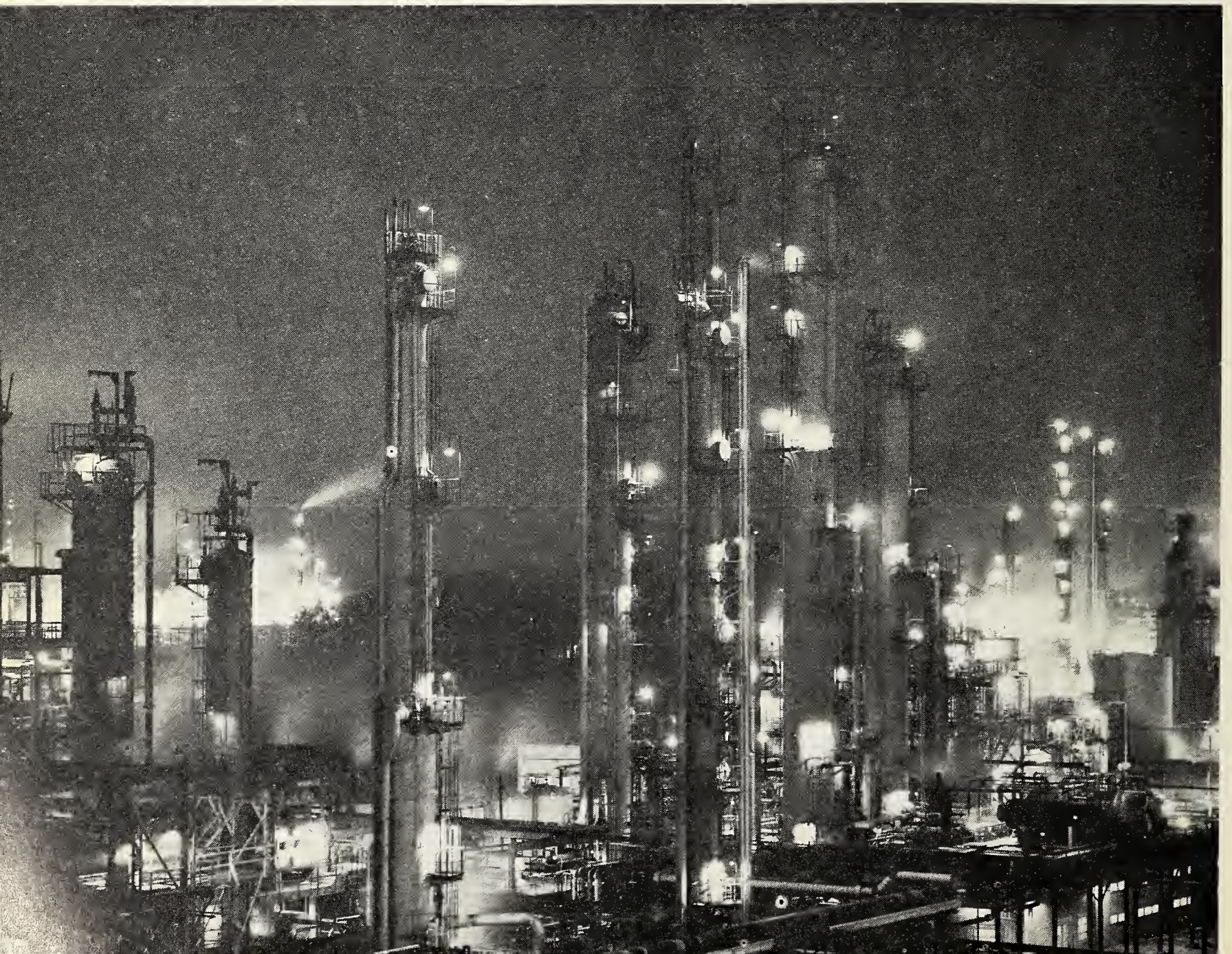
Polymer Corp. Ltd. located in Sarnia, is one of the world's few fully integrated synthetic rubber plants. Established in 1942, as a Crown corporation and with a staff of over 3,000, it is Sarnia's largest employer. At present, this plant has a production capacity of 250,000 long tons of synthetic rubber per year, which will be expanded during the next two years with additions to the styrene and ethylbenzene capacity. The annual output consists of more than forty different types and grades of rubber and is roughly equivalent to 10 per cent of the world's synthetic rubber production. Between sixty and seventy per cent of this total is marketed abroad, primarily in Western Europe. About four-fifths of Canada's annual rubber requirements are supplied by this company.

The broad scope of Polymer's product range is a result of the Company's extensive research activities. Maintaining one of the largest research centres in Canada, the Polymer Corporation enlarged these facilities during 1966 at a cost of \$1.5 million.

Dow Chemical of Canada Ltd. located a styrene plant in Sarnia in 1947, the first unit which led to a major plastics and chemical complex. Today the company employs over 1,000 persons and manufactures a wide

Part of the production facilities of Polymer Corporation Ltd., Sarnia.

—Courtesy—Polymer Corporation Ltd.



MANUFACTURING

range of chemicals and plastics, including chlorine, caustic soda, glycol, vinyl chloride monomer, chlorinated solvents, hydrochloric acid and polystyrene. Comprising approximately twenty units, this complex is the result of almost twenty years of uninterrupted growth and represents a capital investment of approximately \$100 million. Exports account for about 15 per cent of annual output and the prime market areas are the United Kingdom and the Far East. The Company also maintains extensive research facilities at this location.

An expansion program entailing the expenditure of more than \$20 million is now underway at this site. Additional facilities were recently constructed for producing anhydrous ammonia, vinyl chloride, styrene, methyl chloroform and caustic chlorine.

Cabot Carbon of Canada Limited has been located in Sarnia since 1952. Employing about 140 people, the plant represents a capital investment of more than \$8 million and produces mainly carbon black, an essential component in the manufacture of rubber goods. Recently, the completion of a \$1.5 million expansion program raised the plant's annual capacity to roughly 110 million pounds.

The ranks of Sarnia's chemical manufacturers were enlarged in 1960 by the arrival of **St. Clair Chemical Ltd.** — Canada's first producer of anhydrous aluminum chloride. The Company's facilities are capable of producing some 3.5 million pounds of this catalyst annually.

Anti-knock-compounds were manufactured in Canada for the first time during 1956, when the **Ethyl Corporation of Canada Ltd.** commenced operations in Corunna. The Company now has approximately \$13 million invested at this site, where it employs over 100 people. The output of this plant also includes significant quantities of gasoline additives and catalysts which are by-products.

Du Pont of Canada Limited, established a polyethylene resin plant in Corunna in 1960. Operating with a staff of 175 persons, it is the only single-process plant in North America capable of producing a full range of such resins. The construction of additional facilities in 1963 raised this plant's annual capacity to approximately 50 million pounds.

Allied Chemical Canada Limited, the most recent arrival among Corunna's chemical manufacturers, produces toluene diisocyanate — an organic compound used in the manufacture of flexible urethane foams, paints and varnishes. Built in 1963, Allied's plant has an annual capacity of 5.5 million pounds and is operated by a small staff of highly trained personnel.

The lower St. Clair valley's association with the petrochemical industry dates from early 1966, when the **Chinook Chemicals Corporation Limited** established a plant in Sombra. Representing a capital investment of \$2 million the plant produces methylamine and methylating derivatives.

A significant event in the Region's chemical industry occurred in 1967, when **Canadian Industries Ltd.** completed the construction of Ca-

LAKE ST. CLAIR REGION ECONOMIC SURVEY

nada's largest fertilizer complex in Courtright. Estimated to represent an investment of \$50 million and employing some 300 people, it has as a nucleus an anhydrous ammonia plant with a capacity of 1,000 tons per day, the output of which is used to feed nitric acid, ammonium phosphate, ammonium nitrate and urea units. This concern differs from the other petrochemical plants in the Region in that inputs derived from natural gas, rather than petroleum, form the basis of its operations. The Region's gas supply is distributed by the **Union Gas Co. of Canada Limited** and originates primarily in Western Canada, although a substantial volume is also obtained from local and American producers.

The **food and beverages industries** are an important group in the St. Clair Region ranking second in terms of employment and third in terms of annual output value. Comprised of 204 establishments, they provide jobs to 8,742 persons or 20 per cent of the Region's manufacturing workers and accounted for \$242 million or 19 per cent of the Region's industrial output in 1962. This group represents a substantial part of Ontario's food and beverage industries, accounting for 9.9 per cent of the Provincial output.

The fruit and vegetable canners and preservers comprises the largest part of the Region's food and beverage industries, employing 43 per cent of the workers in this group and accounting for 38 per cent of the output value. Next in significance are the dairies with 11 per cent of the employees and 7 per cent of the output. Other major segments include feed manufacturers, bakeries, soft drink manufacturers and poultry processors, which together account for 16 per cent of the group's total employment and 11 per cent of the output. The remaining 30 per cent of the workers in this group are employed in a wide variety of food and beverage plants producing a diversity of products including alcoholic beverages, and together account for 44 per cent of the group's total output.

Approximately 48 per cent of the Region's food and beverage industries are located in Essex, 28 per cent in Kent and 24 per cent in Lambton. Within Essex is situated the plant and international headquarters of **Hiram Walker and Sons, Ltd.**, distillers and bottlers of alcoholic beverages. Established in 1855, the plant employs over 1,000 people, and is the third largest employer in the Greater Windsor area. **Calvert Distillers Limited**, located in Amherstburg, is a branch of the well-known Seagram's of Montreal and employs approximately 250 people. Another comparatively large establishment in the Windsor area in the food group is **The Purity Dairies Limited**, producing dairy products and ice cream, and employing between 250-500 people depending on seasonal requirements. The well-known **H. J. Heinz Company of Canada Ltd.** has the largest tomato processing plant in the British Commonwealth located at Leamington. Employing some 2,500 persons, the plant's output comprises a wide variety of canned and processed foods including baby foods, soups, sauces, tomato ketchup and juice.

In Kent, **Libby, McNeill and Libby of Canada Limited** established a

MANUFACTURING

plant in Chatham in 1957 to produce a diversity of frozen, canned and bottled food products. This firm also has a branch plant in Wallaceburg. In addition, the **Campbell Soup Company Ltd.** is located in Chatham and produces soups and vegetable juices. The **Canada and Dominion Sugar Company Limited** is a large employer in Chatham, processing sugar, dried beet pulp and molasses.

FOOD AND BEVERAGE INDUSTRIES, LAKE ST. CLAIR REGION, 1962								
	Establish- ments		Employees		Salaries and Wages		Value of Factory Shipments	
	No.	%	No.	%	(\$000's)	%	(\$000's)	%
Poultry processors	10	5	242	3	595	2	7,134	3
Dairy factories	29	14	941	11	3,998	11	16,362	7
Fruit and vegetable canners and processors	28	14	3,780	43	14,807	42	92,652	38
Feed manufacturers	33	16	216	2	825	2	8,421	4
Bakeries	62	30	680	8	2,335	6	8,012	3
Soft drink manufacturers	14	7	270	3	1,103	3	3,542	1
All other food and beverage manufacturers	28	14	2,613	30	12,293	34	106,047	44
Total, Region	204	100	8,742	100	35,956	100	242,170	100

The **metal fabricating industries** included 146 plants, employing 4,800 persons in 1962 or 11 per cent of the Region's industrial work force and producing an output valued at \$74 million. In terms of employment, this group ranked fourth largest in the Region and fifth largest in terms of output. To a large extent, the growth and development of many of these firms can be attributed to their role as suppliers to the transportation equipment industry. However, the range of products produced is very wide, extending far beyond transportation equipment.

The Region's metal fabricating industries are composed of 54 hardware, tool and cutlery manufacturers, 25 metal stamping, pressing and coating plants, 22 machine shops, 15 manufacturers of ornamental and architectural metal products and 30 plants producing miscellaneous other metal products.

Within this group of industries, the miscellaneous metal fabricating manufacturers account for 40 per cent of the output and employ 16 per cent of the group's work force. The manufacturers of hardware, tool and cutlery rank second, contributing 20 per cent of the group's output and employing more than one-quarter of the workers and in addition, represent a substantial part of the Ontario industry, comprising 17 per cent of the Provincial output and employment in their respective category.

Among the largest metal fabricating firms in Windsor is the **Canadian Motor Lamp Co. Ltd.** which produces various stampings and supplies the automotive companies with lighting equipment. **Fabricated Steel Products (Windsor) Ltd.** also employs a fairly substantial labour force, manufacturing steel and metal products, stampings and material handling

LAKE ST. CLAIR REGION ECONOMIC SURVEY

equipment and stands among the first seven of the sixty Canadian-owned companies engaged in metal stamping. The **SKD Manufacturing Co. Ltd.**, located in Amherstburg, makes stampings and related products, largely for the automotive industry and agricultural implements. The **National Auto Radiator Mfg. Co. Ltd.** manufactures stampings and assemblies for automotive and agricultural machinery. It also produces gas tanks, oil pans and cylinder head covers and has the distinction of being Canada's largest stamping plant. The **Canadian Bridge Division of DOSCO Industries Ltd.** designs and produces bridges and transmission towers for radar and television.

A large firm in Chatham is **Ontario Steel Products Co. Ltd.** which supplies the automotive industry with such parts as bumpers and springs.

METAL FABRICATING INDUSTRIES, LAKE ST. CLAIR REGION, 1962								
	Establish- ments		Employees		Salaries and Wages		Value of Factory Shipments	
	No.	%	No.	%	(\$000's)	%	(\$000's)	%
Ornamental and architectural metal	15	10	130	3	472	2	1,598	2
Metal stamping, pressing and coating	25	17	565	12	2,556	11	11,897	16
Hardware, tool and cutlery manufacturers	54	37	1,252	26	6,491	28	14,492	20
Machine shops	22	15	178	4	784	3	2,042	3
Miscellaneous metal fabricating manufacturers	23	16	1,609	33	7,993	34	29,762	40
All other metal fabricating manufacturers	7	5	1,068	22	5,231	22	14,001	19
Total, Region	146	100	4,802	100	23,527	100	73,792	100

The **non-metallic mineral products industries** comprise an important group in the St. Clair Region, although their output is relatively small, accounting for three per cent of the Region's manufacturing value. The group is composed of 18 concrete products manufacturers, 11 clay products firms, 9 manufacturers of glass and glass products and 5 ready-mix concrete producers.

Over 1,700 of the 2,200 employees in this group are employed in the production of glass and glass products and this sector also represents a major proportion of the group's total output value.

Dominion Glass Company Limited, in Wallaceburg, produces all types of pressed and blown glass, and is the town's largest employer and one of the biggest in the Region.

Another large firm, **Fiberglass Canada Limited** is in Sarnia and has been manufacturing glass in fibre form since 1948. The plant employs 500 persons and its products include fibre glass insulations for appliances, special fabrications for the aircraft industry, and insulations for residential, commercial and industrial use. The plant is conveniently located near

MANUFACTURING

the firm’s raw materials — sand from Michigan, limestone from London and nepheline syenite from Nephton.

The **primary metal industries**, although a relatively smaller group in terms of annual manufacturing output, are an important facet of the St. Clair Region’s industrial complex. In 1962, employing almost 1,100 persons, their annual output was valued at \$14 million. The iron foundries form the major segment in this group, with an output of \$9 million in 1962, or 65 per cent of the total production of all the primary metal industries in the Region.

In the Windsor area the work force in the forging-foundries accounts for almost 10 per cent of all industrial employment. One of Windsor’s oldest firms and its fourth largest single company is **Dominion Forge Co.** which produces forgings for the automotive and agricultural implement industries, including crankshafts, gears and axle-shafts. A smaller foundry is **Great Lakes Forgings Limited** which produces drop forgings and, like Dominion Forge, supplies the agricultural implement and automotive industries.

In Sarnia, the **Holmes Foundry Limited** is one of the Region’s largest foundries, employing about 500 people. The plant was set up in 1919 and produces grey and ductile iron castings for automotive and other uses. The company has, besides its foundry division, an insulation division, which produces glass fibre insulation for construction and industrial uses and manufactures high temperature thermal insulation products, used particularly by the area’s petrochemical companies.

Wallaceburg is the home of **Wallaceburg Brass Limited**, founded in 1905 and now the town’s second largest employer with a labour force of some 300 people. The foundry smelts 25 tons of brass per day and produces plumbing brass for the construction industry, die castings for the automotive industry, and aluminum, brass and steel castings for other industries.

Prospects For Future Industrial Growth

A review of the Region’s industrial development during the 1957-1962 period reveals that manufacturing output increased some \$20 million while its relative share in the Provincial total decreased from 10.8 per cent

MANUFACTURING OUTPUT, LAKE ST. CLAIR REGION AND ONTARIO IN REAL TERMS, 1957-1962 (CONSTANT 1956 DOLLARS)			
Years	Region — — — — \$ Millions	Province — — — —	Region as % of Province %
1957	1,173.18	10,823.27	10.8
1958	1,090.93	10,579.97	10.3
1959	1,097.68	11,240.98	9.8
1960	1,148.01	11,275.84	10.2
1961	1,116.35	11,614.94	9.6
1962	1,193.11	12,748.65	9.4

LAKE ST. CLAIR REGION ECONOMIC SURVEY

to 9.4 per cent reflecting largely structural changes in the automotive industry.

As a result of the Automotive Free Trade Agreement with the United States, plans for expansion in the transportation and related industries are in progress while sizable capital investments are anticipated for the future. Continued growth in the petrochemical industry and food processing along with favourable developments in the automotive sector will be instrumental in maintaining a steady long-term growth of the Region's industrial output.

Recent studies by the Department's Economic Planning Branch estimate that total provincial output will grow at an average annual rate of 5.75 per cent which is consistent with national "economic goals" set by the Economic Council of Canada in its 1964 annual review. Long-term econometric projections made by the Royal Commission on Health Services ("Canadian Economic Growth" by T. M. Brown, 1964) further support this estimate.

On the basis of current growth patterns and the projected growth rate total provincial output is expected to reach some \$28 billion (constant 1956 dollars) by 1976. Recent trends in the Region indicate that manufacturing output will range between 10.0 per cent and 10.8 per cent of Ontario's total output with a production volume of \$2.8 to \$3.0 billion (constant 1956 dollars). Assuming an average of \$2.9 billion (constant 1956 dollars) in 1976, total manufacturing output will grow at an annual rate of 6.50 per cent over the 1962-1976 period.

TRANSPORTATION AND COMMUNICATIONS

Holding an important position at the heart of North America's industrial complex, the Lake St. Clair Region is well supplied with a comprehensive transportation and communications network providing speedy access to prime markets and to industry's main sources of supply. Airports, seaports, railway systems and highways — all ensure mobility for passengers and freight alike, while the requirements of private individuals and business interests are met by telegraph and telephone systems utilizing the most modern techniques. Current events are covered at international, national and local levels by a variety of newspapers published in the various communities.

Railways

There are five main railroads operating in the Region — Canadian Pacific, Canadian National, New York Central, Chesapeake and Ohio, and the Norfolk and Western, supplemented by the local Essex Terminal Railway. This network provides the geographical link with Michigan to the West, Buffalo and Toronto to the East.

The New York Central System runs a double track mainline through Essex and Kent Counties. Its branch lines comprise the Amherstburg Branch, running from Amherstburg to Essex, a distance of some 17 miles, and the Leamington Branch, from Comber to Leamington. The mainline runs from the Detroit River at Windsor, continuing over the regional border near Highgate to Buffalo, while branching off northeast to Hamilton. Stations in the Region are at Essex, Roscomb, Comber, Tilbury, Fletcher, Fargo, Ridgetown and Highgate. The line at Fargo connects with the Chesapeake and Ohio running from the Port of Emen to Sarnia. The New York Central possesses no trackage at all in Lambton County. At present, six passenger trains a day are handled over the mainline (three in each direction), as well as six bonded freight trains.

A local day freight travels between Windsor and Niagara Falls, Ontario, in each direction, providing a necessary service at agencies and interchange points. Every day of the week, except Sunday, a local service

LAKE ST. CLAIR REGION ECONOMIC SURVEY

is operated between Windsor and Amherstburg and to and from Leamington and Comber. In Windsor, an interchange is provided with the local Essex Terminal Railway, and with the Canadian Pacific Railway, performing regular locomotive maintenance and emergency car repairs.

Among the major commodities originating at New York Central's stations in the Lake St. Clair Region are canned goods, chemicals, autos and auto parts. Freight shipped into the Region includes newsprint, scrap iron, auto parts and stone.

The Canadian National Railways operates a total of 128 miles of track in the Region. Trackage is composed partly of the Toronto-London-Sarnia route, connecting with the Grand Trunk Western Railway at Port Huron, and partly of the London-Windsor route. The former spans a distance from Sarnia in Lambton County to four miles east of Watford, while the latter is laid from Windsor in Essex County to a point two miles northeast of Bothwell.

The London to Sarnia line carries 14 freight trains per day on average, and six regular daily passenger trains, including through service trains from Windsor to Chicago.

The Windsor line, double track from Windsor to Glencoe, carries a daily average of some 18 trains. These include four Canadian National freight trains between Windsor and Toronto, two local switching trains, two fast express freights and six regular passenger trains. At the same time, this Canadian National line carries four Norfolk and Western trains daily to and from Buffalo. The operation is under a joint agreement, originally made with the Wabash Railroad Company, now incorporated into the Norfolk and Western System by way of a recent amalgamation.

At both Sarnia and Windsor, piggyback service with ramp facilities is provided. Also at Sarnia, the St. Clair River tunnel carries all Canadian National and Grand Trunk Railway traffic on the east-west line linking Toronto-Sarnia-Port Huron and Chicago.

The Region is served by Canadian Pacific Railway's main line from London to Windsor, which carries a regular schedule of six freight trains and three way freights. Passenger service is provided by diesel trains twice a day in both eastward and westward directions.

Canadian Pacific's main line runs parallel with the Canadian National line from the border of Lambton and Middlesex Counties at Newbury to Chatham, from which it runs further south before heading towards Windsor. The total distance covers approximately 77 miles of mainline track in the Region. Among the stopping points in the areas are Thamesville, Chatham, Tilbury, Belle River and Windsor. Unlike some of the other systems, the company operates no branch lines in the area. A "piggyback" service is in operation from Windsor, its loading point, while an express service is maintained between all the main centres.

The Norfolk and Western Railway Company's line operates only freight trains under joint agreement with Canadian National Railways. The



The Rail Yard at Sarnia.

—Courtesy—Ontario Department of Tourism and Information.

distance between the regional track limits, Bothwell to Windsor, is 68 miles, while stations are situated at Bothwell, Thamesville, Northwood, Chatham, Prairie Siding, Jeanettes Creek, Stoney Point, Belle River, Tecumseh, Walkerville and Windsor. Two through freight trains a day travel eastbound and westbound, between Buffalo, New York and Windsor. However, they handle none of the traffic to or from the Canadian National mainline route stations, this being primarily undertaken by joint local trains.

The Chesapeake and Ohio Railway Company operates some 165 miles of main track within the boundaries of the Region. In Essex County, 46 miles of track extend from Windsor to Wheatley; in Kent County there are 94 miles of track consisting of 48 miles from Wheatley to the Town line on the eastern boundaries west of Rodney, and 46 miles from Erieau to Whitebread, approximately four miles north of Wallaceburg; Lambton County has a line running from Whitebread to Sarnia, a distance of some 25 miles.

Two local freight trains operate daily in Essex County, except on Sundays, while there are four fast freight trains each day. In Kent County there are four local trains per day, excepting Sunday, and six fast freight trains daily. The County of Lambton is served by two local freight trains, while each day two fast freight trains are scheduled.

The Company discontinued handling carload freight traffic of shipments less than 6,000 pounds in weight, in July, 1965. Up to that date, such

LAKE ST. CLAIR REGION ECONOMIC SURVEY

traffic was managed on local freight trains, between the terminal points already described. No passenger service or express service is provided by the Chesapeake and Ohio.

The Essex Terminal Railway runs almost parallel with the Detroit River from Ojibway to the junction with the New York Central System Railway, located a few miles north of Amherstburg. Total trackage covers 50 miles, concentrating purely on the shipping of freight, primarily for servicing industry. The line maintains a linkage with all the major railroads. Freight cars are picked up at both the intersections and at the Company sites. The three stops of Ojibway, Windsor and Amherstburg are the sole points of interest to the company, no stops between these points being contemplated for the future.

In view of the rapid economic development in the Region, the railway companies spend large sums on regular maintenance as well as on special services. The New York Central System spent heavily on tie renewals during 1966, while a programme for the replacement of flasher lights and bells at public crossings by gates is underway. Introduction of ten installations per year is under consideration, costs to be borne by Government, the municipality and the Company.

Canadian National recently laid 12 miles of new track south from the Sarnia Yard to the developing area around Moore and Sombra townships. The prime purpose of this spur line is to serve a new ammonia and chemical fertilizer complex situated on a 1,000 acre site.

Chesapeake and Ohio foresees further industrial development in the Sarnia-Courtright area of Lambton County and will provide the vicinity with the required rail transportation.

Roads and Highways

The Region possesses a road network of 6,238 miles shared almost equally among the three Counties. The bulk of the network is in the form of organized township roads, their 3,745 miles accounting for 60 per cent of the total. Urban roads cover 961 miles, county roads 905 miles and King's Highways 627 miles, or 10 per cent of the total regional mileage. There are no secondary highways, unorganized township roads or tertiary roads in any of the three Counties. Organized township roads tend to form the bulk in each County. In Essex and Kent this type of road accounts for 56 per cent, representing 2,284 miles, while the highest proportion of organized township road is in Lambton.

Essex County has the highest percentage of urban roads in its network, (25 per cent) representing a distance of some 507 miles. Kent County's urban road structure is the smallest, amounting to just 211 miles or 10 per cent of a total 2,050 miles, a greater significance being attached to its 404 miles of county roads, almost 20 per cent of the Kent aggregate.

The 225 miles of King's Highway in Essex account for 11 per cent of the County total. Kent County has 212 miles of King's Highway, 10 per cent of its total, while in the Border Sub-Region as a whole the 436 miles of

TRANSPORTATION AND COMMUNICATIONS

King's Highway account for 11 per cent of the road network. Of Lambton's 2,137 miles, nine per cent or 190 miles are classed as King's Highway.

The major King's Highway is the Macdonald-Cartier Freeway, previously known as Highway No. 401. This Freeway has been open since November, 1964, to traffic from Windsor through to the Quebec border, more than 400 miles of highway, the greater part of this distance being covered by four lanes. Inside the Region, it extends over a distance of slightly more than 71 miles from Windsor to the Kent-Elgin border. Its starting point close to the Detroit River renders the Highway vitally significant to the flow of traffic between United States and Canadian locations, providing speedy access to the Toronto market, the Province of Quebec and to the Maritime Provinces.

The Macdonald-Cartier Freeway now carries an average daily traffic of 5,459 vehicles in the Region. Compared with a 4,217 average in 1960, the four-year interval showed a 29 per cent increase in the annual average daily traffic, while the actual highway mileage more than doubled in length from 31 miles to 77 miles. Traffic is densest along the 13 miles between the Elgin-Kent boundary and Highway 21, more than 6,000 vehicles per day travelling over this particular stretch of highway.

Highway 2 (following a similar route to the 401) while carrying heavier traffic than the Freeway in the immediate Windsor vicinity, appears to have lost its basic regional traffic to the extended Macdonald-Cartier Freeway. This highway also reaches toward the Quebec boundary, and has 59 miles of its total length within the Region, between Windsor and Thamesville. The annual average daily vehicle traffic of 3,388 was 24 per cent lower than the 1960 figure of 4,474, a decline apparently moving in inverse ratio to the 29 per cent increase on the 401.

Highway 3, linking Windsor with Fort Erie and the Buffalo, New York area beyond the international border, covers a distance of 67 miles through Essex and Kent. The 3,556 average vehicle traffic per day compares with 3,328 in 1960, seven per cent heavier.

Within the Region, Highway 98 goes from Windsor through the Counties of Essex and Kent, to Blenheim, where it joins Highway 3. The highway extends for 57 miles, two miles less than in 1960; its density of traffic declined by 28 per cent, from 2,488 to 1,801, during the period under review.

Highway 7 runs for some 40 miles within the Region, between the Junction at Highway 81 and Sarnia in Lambton County. Since 1960 the annual average daily traffic increased from 3,534 to 3,870 vehicles.

The Region's longest highway is No. 21, which takes traffic from Highway 3, south of Ridgetown, through Kent and Lambton Counties and on to Owen Sound, in the Georgian Bay Economic Region. It covers 79 miles within the Lake St. Clair Region, bounded by Highway 3 and Grand Bend. However, its average traffic per day of 1,930 is somewhat below the regional average.

LAKE ST. CLAIR REGION ECONOMIC SURVEY

Highway 40 acts as a significant link between the focal points in Lambton County and Kent County, namely Sarnia and Chatham. It is built along the St. Clair River, continuing to Chatham via Wallaceburg, a total distance of 42 miles. The only other King's Highway of any considerable length is No. 18, running from Leamington to Windsor, a distance of 41 miles, but serves primarily local traffic.

The heaviest traffic in the Region is centred upon the stretch of Highway 3B in the Windsor area, where average daily traffic density reaches 13,132 vehicles. Also, sections of other highways in this area experience heavy flow, such as a part of the No. 98, by the Canadian Pacific Railway crossing, which has approximately 16,000 vehicles using it each day.

The Region is served by a total of twenty-five King's Highways carrying an overall average daily traffic of 2,874 vehicles over their 627 miles. Thirteen of these highways serve Essex County, eight run through Kent County, while twelve King's Highways contribute to Lambton County's total road network.

Expenditures by the Department of Highways on highways and on other roads in the Region remained at approximately \$9 million in 1964 and 1965, but increased to some \$10 million in 1966. The major portion of Departmental expenditure is devoted to construction, while between 10 and 15 per cent of the money is utilized for basic maintenance purposes. Most of the total construction and maintenance expenditures are set aside for the building and extension of Secondary King's Highways.

Recent improvements of the regional highway system include the opening of two extra lanes on the Macdonald-Cartier Freeway east of Chatham, in 1965, ensuring that the longest toll-free, controlled access multi-lane highway in Canada would hold at least four lanes on the 400 mile road stretch between Windsor and a point east of Ganonoque. A feature of the 13-mile section from Kent County Road to the Kent-Elgin boundary was the planting of some 1,500 trees and shrubs lining the route.

Proposals have already been drawn up for extension of the existing system and traffic projections for Highway 40 between Sarnia and London indicate that by 1985 there will be 15,000 vehicles per day between these two points while traffic on the Macdonald-Cartier Freeway will vary between 12,000 and 20,000 vehicles per day, whereas from Grand Bend to Sarnia traffic flow is expected to reach 7,000 cars per day.

The King's Highways and secondary highways come under the jurisdiction of the Provincial Government, while other roads are subject to the administration of local governing bodies in urban centres, townships and Counties. However, the Province makes substantial contributions to the municipalities in the form of subsidies on approved spending, for construction and maintenance of local roads and bridges.

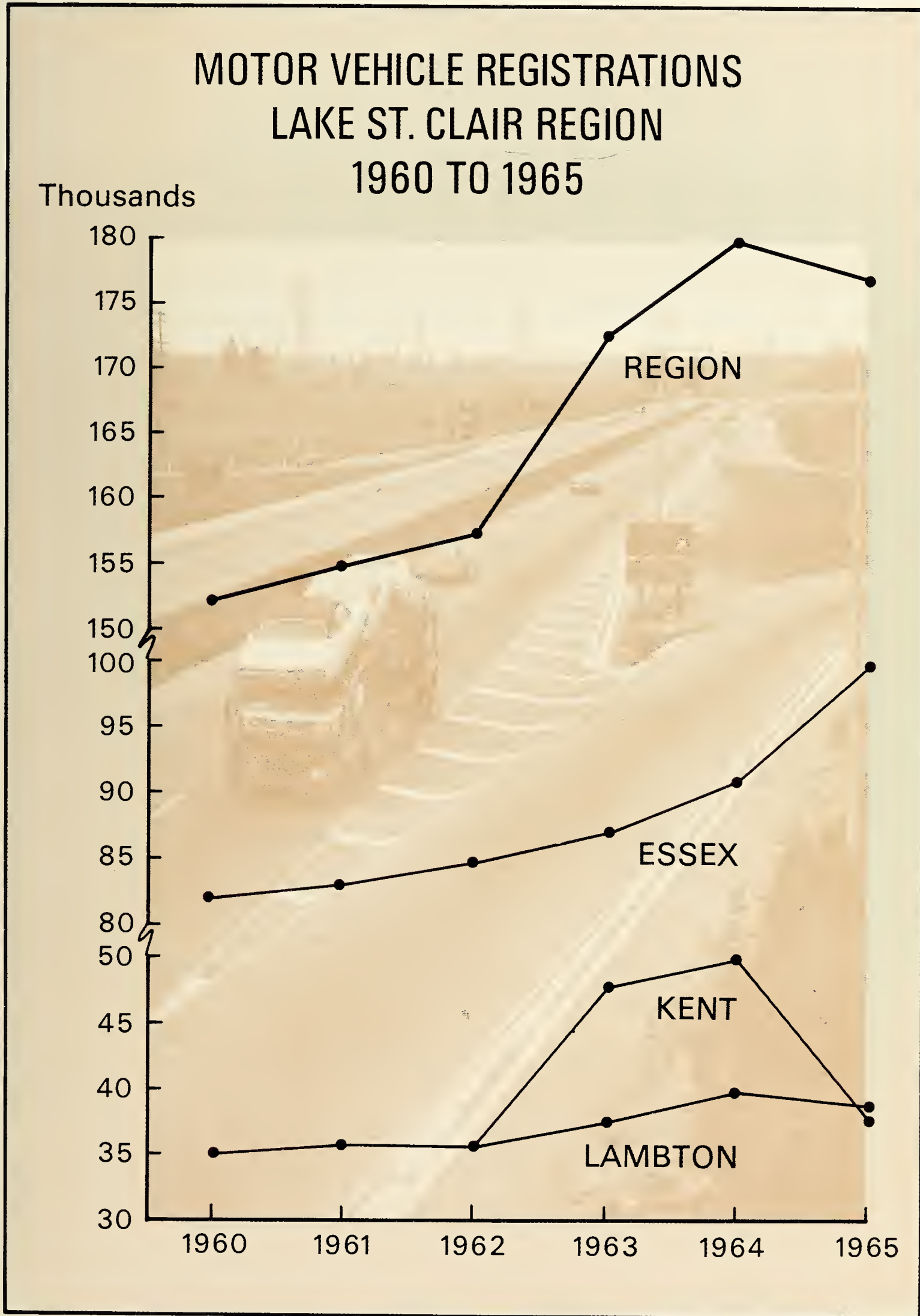
Motor Vehicle Registrations

Reflecting the over-all national trend towards a steadily increasing car population, the number of motor vehicles registered in the Region rose

TRANSPORTATION AND COMMUNICATIONS

from 152,173 units in 1960 to 176,892 in 1965, representing a 16 per cent gain.

Essex County accounts for some 56 per cent of the total number of registrations, while Kent and Lambton Counties each represent about 22 per cent of the Region's motor vehicle population. In all Counties, the



LAKE ST. CLAIR REGION ECONOMIC SURVEY

majority of registrations is for passenger automobiles, which account for about 85 per cent of the total, while commercial vehicles play a much less significant role.

Trucking

The Region is well endowed with an extensive truck transportation network, some sixty-eight trucking companies offering their services to business concerns and individuals in the three Counties. Thirty-nine of these companies hold rights to ship goods and materials within the Province of Ontario.

Sixteen trucking concerns in the Region possess international jurisdiction, serving various centres in the United States, although, by reason of the area's geographical location, Detroit is their prime U.S. centre. Many other enterprises concentrate on conducting a public commercial service between communities on the King's Highways and other specified locations.

Large trucking centres include Windsor, with twenty-eight carriers, Chatham with eighteen carriers, Tilbury with twelve, and Tecumseh, Thamesville, Sarnia and Wallaceburg each with nine. As many of the companies possess most of the trucking licenses, some including international jurisdiction, these areas are quite comprehensively serviced. Viewing the network on a County basis, thirty-seven shippers operate in Essex County, thirty-two in Kent County and seventy-four in Lambton.

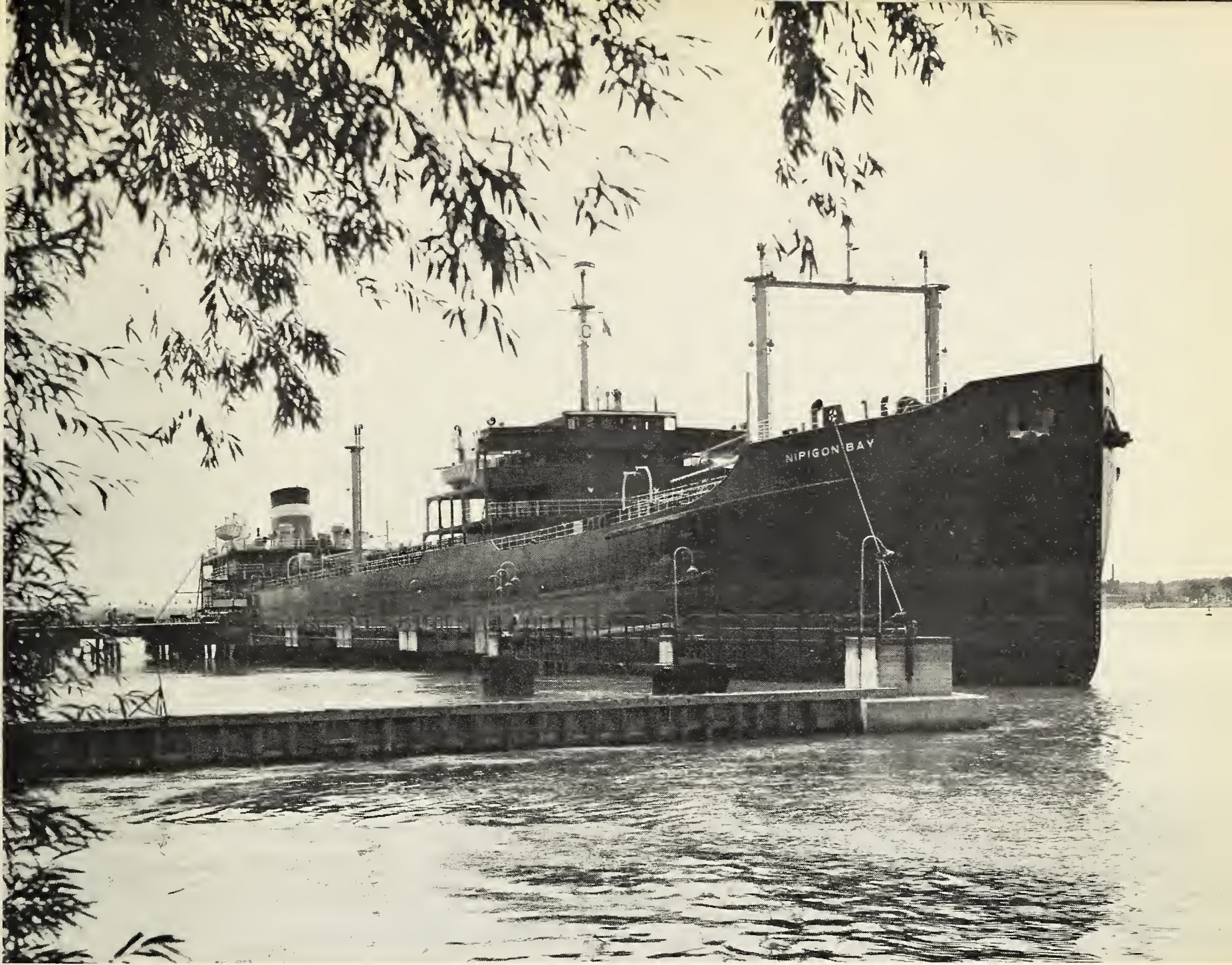
Throughout the Region, Western Freight Lines Ltd. are represented in more centres than any other company. The company operates in 35 communities, also having four call stations outside of the Region. Other large freight movers, operating in more than ten locations are, Inter-City Lines Ltd., Direct-Winters Transport Ltd., Consolidated Truck Lines Ltd., The Overland Express Ltd., Smith Transport Ltd., Lyons Transport Ltd. and Thibodeau Express Ltd. Most of these retain terminals and call stations inside and outside of the Region. The majority of these companies move goods to and from points across the Canadian-American boundary.

Canadian National operates two major highway service routes in the area, one between London and Chatham, the other between London and Sarnia. Both of these routes are integrated with its rail express freight operations, and also serve smaller intermediate centres off the main 'rail-head' at London.

Water Transportation

The Region has twelve shipping ports, most of them operating on a minor scale, except for Windsor and Sarnia. Seven of these ports are located in Essex County, three in Kent County and two in Lambton County.

Both from the tonnage weight and traffic frequency aspects, the Port of Sarnia is the busiest for coastwise shipping. The Port of Sarnia is situated at the mouth of the St. Clair River, opposite Port Huron (U.S.A.), to which it is linked by the Blue Water Bridge. Accommodation consists of more than two miles of waterfront facilities, including docks at Point



—Courtesy—Ontario Department of Tourism and Information.

The "Nipigon Bay" loading fuel oil at Sarnia.

Edward. Principal docks are the Sarnia Elevator dock, served by 5 rail tracks; the Department of Transport docks; Canadian National Railway — Canada Steamship Lines joint dock; the Imperial Oil docks; Sun Oil dock; Canadian Oil Company dock; and Dow Chemical Company dock. Besides these, there are a few other berthing facilities and winter lay-up accommodation owned by private interests.

The Port of Windsor is the Region's second largest, situated on the Detroit River, reputed to be the world's busiest waterway with about one ship passing the channel every twenty-six minutes. Furthermore, Windsor is now a new St. Lawrence Seaway port on the river's south bank, while acting as a national Port of Entry for the Customs Authority. Operated by the Windsor Harbour Commission, the port possesses a modern transit shed as well as loading and unloading facilities owned by Morton Terminal Ltd. Due to its extensive port facilities, the Windsor area's active industrial complex and growing consumer market can be served by the Northwest Steamship Company and Canada Steamship Lines as well as ocean-going vessels.

Largest items of foreign cargo tend to be bituminous coal, unloaded at both Windsor and Sarnia, the major Lake St. Clair Region manufacturing centres, but also Amherstburg, Eriean and Walkerville; sand and gravel, unloaded primarily at the Point Pelee and Windsor ports; limestone, unloaded at Sarnia and also at Windsor and Walkerville, though on a much smaller scale. Chemicals are both loaded and unloaded for

LAKE ST. CLAIR REGION ECONOMIC SURVEY

foreign shipment at the Sarnia harbour while synthetic rubber represents an important outbound cargo.

Regarding coastwise shipping, the prime commodity is fuel oil, loaded in large quantities at Port Sarnia from the area's large refining complex. A fair proportion of this cargo is unloaded at the Windsor port. Lubricating oil and grease are unloaded in Sarnia, while large quantities of gasoline are also loaded. Chemical cargoes leave the Sarnia harbour, although a slightly lesser cargo is unloaded.

Other major cargo commodities in coastwise shipping are wheat and wheat flour, salt, grain feeds, steel bars, rods and structural shapes, food preparations, soybeans; dolomite is handled at both the Windsor and Walkerville ports and at Wallaceburg.

Total tonnage handled by regional ports in coastwise shipping increased from 3.2 million tons in 1963 to an average of four million tons in recent years, representing a 67 per cent over-all growth.

The Detroit River, Lake St. Clair and the St. Clair River act as waterways from Port Colborne, through the Welland Canal, whose starting point is at Port Weller on Lake Ontario. The famous canal itself provides the main link between the Lake St. Clair Region and the busy St. Lawrence Seaway further eastward.

Air Transportation

The major regional Airport is at Windsor, some two miles outside of the City centre, operated by the Federal Department of Transport, and classified as a Customs Port of Entry and Exit for both domestic and international traffic. Scheduled Air Service is available from Air Canada, Canadian Pacific Airlines and Nordair. Modern terminal buildings and facilities at the neighbouring Detroit Airports ensure good air connections to all parts of the North American Continent.

The City of Chatham, in Kent County, operates a land-based aerodrome with turf surface, located eight miles south of the city centre and covering some 315 acres of land. There are two, tile-drained runways, each 500 ft. wide, the longer landing strip stretching over 4,300 ft. of grassland. Classified, like Windsor, as a Customs Port, the airport's activities also embrace student training flights, aerial photography, crop dusting and provision of facilities for chartered flights undertaken in the area.

Pelee Island has an airport with a turf landing strip of 2,800 ft. It is operated by the Township of Pelee, in the County of Essex, and remains active during all seasons.

Sarnia's land aerodrome has two runways, one asphalt, the other turf. The longer of the two measures almost 3,000 ft. in length. Operated by Sarnia St. Clair Air Services Ltd., the airport provides service for the Southwestern Ontario area, while St. Clair Air Services themselves operate primarily between Sarnia and London on a non-scheduled charter basis. Semi-scheduled or chartered airlines are offered by Seneca Air

TRANSPORTATION AND COMMUNICATIONS

Service and Great Lakes Services Ltd. However, the latter was recently granted a regular air service between Sarnia and Toronto by the Air Transport Board. The company has stated that this service is most likely to be economic, in view of the greater industrial activity in Sarnia since 1962, a trend that has already created in its wake considerable pressure from industry for passenger travel. The airport has a charter service to any airline terminus, while air cargo is transported on a charter basis. Previously, all activities were fundamentally at the service of business interests, no air passenger service being available, until the recent Air Transport Board announcement.

Other regional airfields are at Wallaceburg where both freight and passenger services are obtainable, Tecumseh and Cottam. Leavens Bros. Ltd. of Toronto, operates non-scheduled flights between Windsor, Leamington and Pelee Island and offers a non-scheduled charter service, based at Leamington, Windsor and London, for the Southwestern Ontario market in general.

Gas and Oil Pipelines

The Region features a highly developed natural gas distribution and transmission system. Owned and operated by The Union Gas Company of Canada Limited, this system is supplied largely by the Trans Canada Pipeline, which transports gas from Western Canada to Trafalgar Township, near Toronto. A 142 mile, 26 inch pipeline is used to convey the gas the remaining distance to the Company's storage fields in Dawn

Oil storage and pumping system for a pipeline in the Sarnia area.

—Courtesy—Ontario Department of Tourism and Information.



LAKE ST. CLAIR REGION ECONOMIC SURVEY

Township, Lambton County. The latter pipeline is paralleled for over half its length by a 34 inch line which will be gradually extended towards the eastern terminus of the other line as market conditions warrant.

A larger supply of Western gas will be available to the Region in the near future since approval was recently granted by the U.S. Federal Power Commission for the construction of a 1,000 mile, 36 inch pipeline between Emerson, Manitoba and Sarnia which is expected to come into service during 1968. The balance of Union's gas supply is obtained from the southern United States, through the agency of the Panhandle Eastern Pipeline Company, and from local producers.

More than 60 million barrels of Western Canadian crude oil are delivered to the Sarnia area each year by the Interprovincial Pipeline, with terminals at Edmonton and Port Credit in Peel County. Its contribution to the regional economy has become steadily more significant and illustrated by the fact that during the decade which ended in 1966 its deliveries increased from 40.8 million to 62.7 million barrels. Two products pipelines which link the Sun Oil and Imperial Oil refineries in the Sarnia area with Toronto represent another important component of the Region's pipeline network.

Communications

Reflecting the Region's strategic position within Ontario, all major media of communication are well represented in the form of a highly developed communications system to convey and disseminate efficiently information throughout the Region.

Telephones

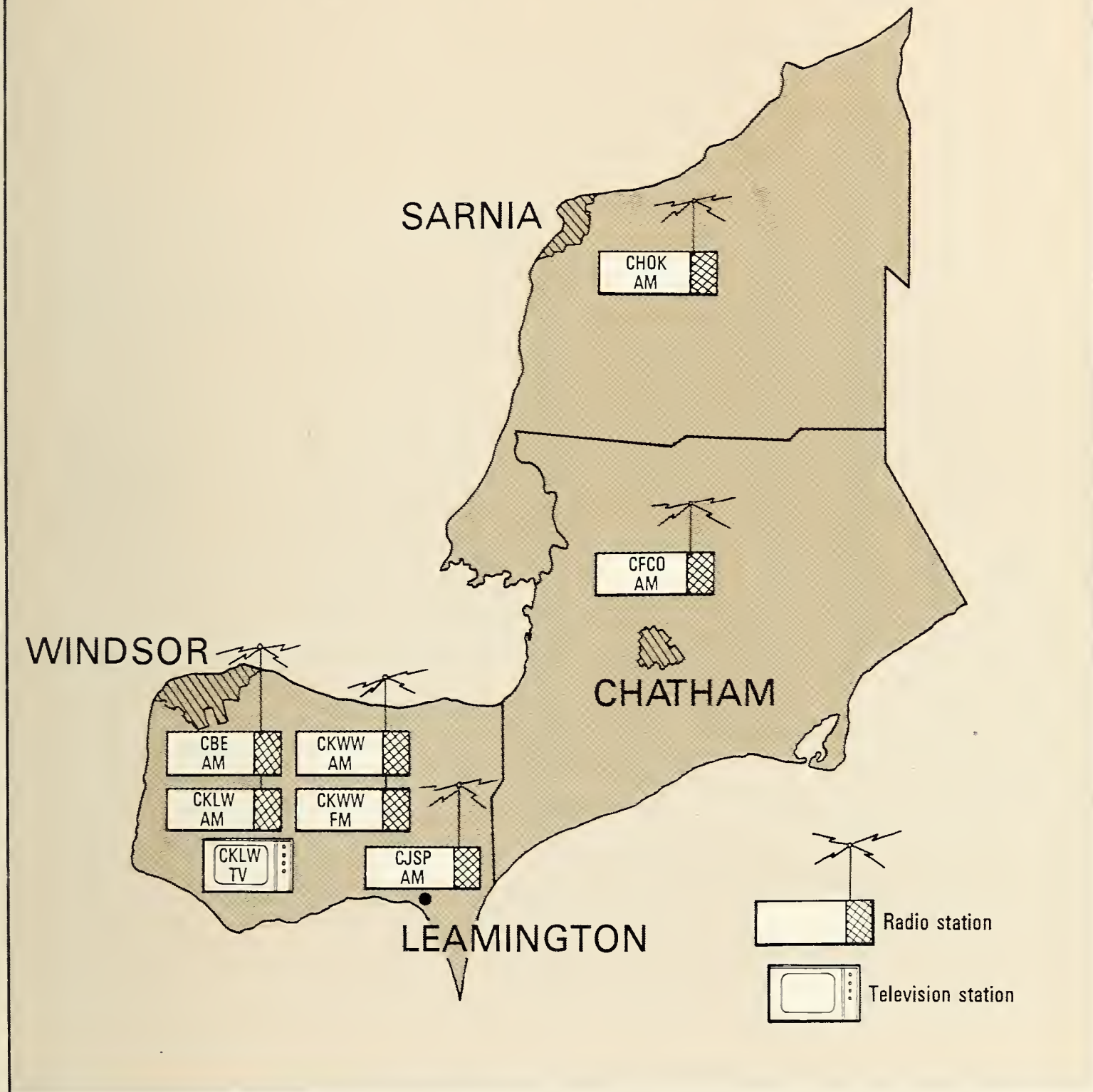
At the end of 1965, the total number of telephones reached 191,066 representing a 55 per cent increase over 1954. About 93 per cent of installed telephones are operated by the Bell Telephone Company while the remaining seven per cent are owned by twelve independent systems. Some 58 per cent of the total number of telephones are installed in Essex County whereas Kent and Lambton Counties account for 20 per cent and 22 per cent respectively.

Whereas the number of subscribers to the regional Bell Telephone system rose by 66,000, the number of telephones operated by the twelve independent systems increased only by 1,400 during the period from 1954 to 1965. Five independent systems ceased to operate and were taken over by larger systems as the number of subscribers proved inadequate to generate sufficient funds for modernization and expansion of efficient service facilities.

Radio and Television

The field of Regional broadcasting embraces seven radio stations, five of them privately owned, and one television station. The television concern operates on Channel 9, and is a Canadian Broadcasting Company TV Network affiliate, based in Windsor. Windsor is also the home of the Region's sole FM radio frequency station, CKWW-FM,

RADIO AND TELEVISION STATIONS LAKE ST. CLAIR REGION, 1966



(owned and operated by Western Ontario Broadcasting Corporation Ltd.) and for CBE, owned and operated by the CBC Radio Network. In total, Windsor possesses four radio station. Others are situated at Leamington (Essex County), Chatham (Kent) and Sarnia (Lambton), each possessing one station. Sarnia's radio station is also affiliated to the CBC Radio Network while being owned and operated by Sarnia Broadcasting (1964) Ltd.

Press

The major press is represented by three daily newspapers in the Region:— the Chatham Daily News, with a circulation of some 14,000, the Sarnia Observer, catering to nearly 16,500 people and the Windsor Star, a Star Publishing Company outlet claiming a circulation of more

LAKE ST. CLAIR REGION ECONOMIC SURVEY

than 81,000. In both Chatham and Windsor, weekly and monthly newspapers are published for various ethnic groups. Sarnia has a weekly besides its daily; Chatham has two weeklies and a daily, while Windsor has daily, weekly and monthly papers. Altogether thirty-two newspapers provide information and comment, much of a local nature, to the inhabitants of twenty-four of the Region's municipalities, seven in Lambton County, eight in Essex County and nine in Kent County. There is also a trade newspaper distributed in Chatham, known as the Chatham Southwest Shopping News which reaches sales of 14,000 copies. However, it is a weekly publication issued during the summer months only.

Among the Region's institutional publications are three produced on the University of Windsor campus—the 'Lance' an undergraduates' weekly newspaper, the yearbook, known as 'Ambassador', and a literary magazine entitled 'Generation'.

CONSTRUCTION, HOUSING AND HOUSEHOLD FACILITIES

The level of construction activity plays a significant role in assessing a Region’s over-all economic position and its performance over time. As such, it represents an important indicator of standards of living, reflecting progress in the spheres of residential housing, commerce, industry, institutions and Government.

Construction activity in the Lake St. Clair Region declined from \$92.4 million in 1951 to \$85.3 million in 1961 largely reflecting the decrease in economic activity resulting from structural changes in the automotive industry. While in 1951 the relative share of the Provincial total was 8.2 per cent by 1961 it had dropped to 4.6 per cent.

Residential construction experienced a sharp decline dropping from \$35.0 million to \$23.3 million during the ten-year period under review whereas non-residential construction showed an increase from \$57.4 million in 1951 to \$62.0 million by 1961. Although residential construction in terms of building activity has declined, the number of occupied dwellings has increased from 100,315 in 1951 to 123,581 in 1961 while occupied dwellings per capita increased from 0.27 to 0.29 during the same period.

RESIDENTIAL AND NON-RESIDENTIAL CONSTRUCTION, LAKE ST. CLAIR REGION, SELECTED YEARS 1951 TO 1965			
Year	Total — — — — —	Residential — \$ millions —	Non-Residential — — — — —
1951	92.4	35.0	57.4
1956	108.3	39.9	68.4
1960	82.5	30.2	52.3
1961	85.3	23.3	62.0
1962	87.6	19.8	67.8
1963	99.7	24.9	74.8
1964	124.6	38.9	85.7
1965	162.4	47.7	114.7

Since 1961, total construction increased from \$85.3 million to \$162.4

LAKE ST. CLAIR REGION ECONOMIC SURVEY

million in 1965 with residential construction increasing from \$23.3 million to \$47.7 million whereas non-residential construction rose from \$62.0 million to \$114.7 million during the same period. Construction activity in the Province showed an increase from \$1,854 million in 1961 to \$2,648 million in 1965 with the Lake St. Clair Region accounting for 4.6 per cent of the total in 1961 and 6.1 per cent by 1965.

The Windsor Metropolitan Area is largely responsible for the upward trend in construction activity as it accounted for some 55.0 per cent of the regional total in 1965 with an expansion in industrial activity and institutional and government spending in this area. Sarnia and Chatham as well play important roles representing some 21.0 per cent of total construction activity in the Region.

Recent developments have in large part determined decisions made on physical expansion in the metal manufacturing industries. A number of Windsor automotive companies and related transportation equipment producers were partly influenced by the Automotive Free Trade Pact to expand existing plants or erect new buildings during the past two years. One of the more spectacular examples of the latter was General Motors' new \$20 million trim plant.

In addition, numerous plans were announced for shopping centres, large apartment and hotel buildings and other construction projects in the Windsor area. More apartments than ever are being erected in the City, while low-rental housing construction is a prominent feature of its downtown urban renewal area. Urban renewal schemes include a river-side park along the Detroit River and large development areas around the business district. The urban renewal programmes have received aid from both the Federal and Provincial Governments.

Plans for the construction of new manufacturing plants were announced during the past two years in Sarnia, Chatham, Wallaceburg, Tilbury and Amherstburg. Lambton County's major construction project is a \$218 million Thermal Electric Generating Station with an installed capacity of 2 million kilowatts, being built by the Ontario Hydro-Electric Power Commission, a project that will employ about 1,600 people at its peak. Also in the area, Imperial Oil has completed recently a new packaging warehouse, situated in Sarnia itself. Throughout the Region a number of municipalities are installing new sewer and water systems to improve existing housing facilities.

Residential Dwellings

Single detached dwellings predominate in the Lake St. Clair Region, representing some 81 per cent of the total number of dwelling units which reached 123,581 in 1961, while apartments and flats are less significant than at Provincial level.

The decade from 1951 saw the number of single detached dwellings grow in significance, with their number increasing en masse from 77,000 to about 100,000. During this period, apartments actually declined in

CONSTRUCTION, HOUSING AND HOUSEHOLD FACILITIES

number, from 17,535 to 17,486. This decline in apartments and flats took place in Essex and Kent Counties, but not in Lambton, although the proportional significance of such dwellings was reduced in all three Counties.

A noticeable trend through the 1951-1961 decade was that owner-occupied dwellings became more predominant, while tenant-occupied dwellings declined in significance, a development common to virtually all areas in the Region.

TYPE OF OCCUPIED DWELLING, COUNTIES, LAKE ST. CLAIR REGION, 1951 AND 1961						
			Total Occupied Dwellings	Single Detached	Apts. and Flats	Other
Essex	1951	No.	57,525	42,780	11,450	3,295
		%	(100.0)	(74.4)	(19.9)	(5.7)
	1961	No.	70,913	55,602	11,342	3,969
		%	(100.0)	(78.4)	(16.0)	(5.6)
Kent	1951	No.	22,180	17,660	3,185	1,335
		%	(100.0)	(79.6)	(14.4)	(6.0)
	1961	No.	25,133	20,875	2,996	1,262
		%	(100.0)	(83.1)	(12.0)	(5.0)
Lambton	1951	No.	20,610	16,740	2,900	970
		%	(100.0)	(81.2)	(14.1)	(4.7)
	1961	No.	27,535	23,446	3,148	941
		%	(100.0)	(85.1)	(11.4)	(3.4)
Region	1951	No.	100,315	77,180	17,535	5,600
		%	(100.0)	(76.9)	(17.5)	(5.6)
	1961	No.	123,581	99,923	17,486	6,172
		%	(100.0)	(80.9)	(14.1)	(5.0)

Household Utilities

During the intercensal period from 1951 to 1961, standards of household conveniences improved appreciably in the Region. Dwellings in possession of hot and cold running water increased from 74,000 or less than three-quarters of all dwellings to 113,000 equivalent to 92 per cent of all dwellings. Those dwellings without any kind of running water had dwindled to less than 4 per cent at the time of the last Census. Lambton appears to have the largest proportion of occupied dwellings with no running water. Yet even in this case, numbers had fallen by more than half over the decade.

Concerning sewage disposal facilities, 61,000 dwellings are connected to sewers. Fifty-five thousand, or some 44 per cent, possess septic tanks or cesspools, while the remaining 8,000 dwellings contain no sewage facilities whatsoever. In both Lambton County and Kent County the septic tank or cesspool is the more commonly used convenience, whereas connection to municipal sewage systems predominates in Essex County.

Exclusive usage of bathroom facilities is a privilege held by

LAKE ST. CLAIR REGION ECONOMIC SURVEY

occupants in 90 per cent of all Regional dwellings, compared with 72 per cent during the 1950's. Dwellings where occupants are obliged to share bath facilities accounted for only 2.1 per cent of total dwellings, compared to 3.9 per cent in 1951, while the proportion of those possessing neither bath nor shower was drastically reduced from 24.3 per cent or more than 24,000 to a mere 5 per cent by 1961.

Hot air furnace heating constitutes the most popular heating method adopted in the Region, and became even more accepted during the 1951-1961 decade, although this method was deemed less preferable to steam or hot water in occupied dwellings in the Province as a whole. Gas has become the most widespread type of fuel, primarily at the expense of coal, oil and wood. Changing patterns in fuel consumption are illustrated by examination of the declining number of dwelling units using coal or wood. These dropped from 60,000 to 14,000 during the decade, while the number of gas users increased from 23,000 to 79,000 and that of oil users from 17,000 to 30,000. The upward trend in regional oil consumption, however, was less marked than in the Province.

Increased utilization of refrigeration is another facet indicative of the Region's rising standard of living. While in 1951 there were a little over 90 per cent of occupied dwellings equipped with refrigeration, virtually all dwellings had such facilities by 1961. Home freezers were installed in 17,000 dwellings in 1961, some 14 per cent of total dwelling units. More than 90 per cent of occupied dwellings possessed at least one television set.

Only slight differences are apparent between the Region and the Province as regards the proportion of dwellings considered to be in need of major repairs, which amounted to just 5 per cent of all dwellings in 1961.

Educational Buildings

In order to prepare for an anticipated enrolment of 5,000-6,000 students by 1970, the University of Windsor is now engaged in a major expansion programme, estimated at more than \$20 million. Included in the 1963-1967 programme is the construction of a new administrative centre and buildings intended to serve such disciplines as the social sciences, business administration and fine arts, besides providing residences and recreational facilities for students.

In the spheres of public school education, extensions to school buildings have been planned for Windsor, Essex and Wallaceburg; a vocational school will be built by the Windsor Board of Education, while Howard Township is to have a central school constructed, comprising 21 classrooms. Both expansion and construction of new libraries in the Region are planned for Wallaceburg and Petrolia, while Howard Township's \$50,000 Centennial library has already been officially opened.

CONSTRUCTION, HOUSING AND HOUSEHOLD FACILITIES

Projections

As a result of the Automotive Free Trade Agreement between Canada and the United States, a further expansion in economic activity is anticipated in the future. Along with the transportation equipment and related industries, growth in the petrochemical industry and foods and beverages will generate increased activity in non-residential construction while residential construction will expand to accommodate the increasing population in the area.

Long-term econometric projections made by the Royal Commission on Health Services and recent studies by the Department's Economic Planning Branch estimate that total Provincial output will expand at an average annual rate of 5.75 per cent. Based on current growth patterns construction activity in the Province is expected to play a dominant role in the projected expansion in economic activity.

By 1976 it is estimated that construction activity in the Province will fluctuate around \$4,700 million in constant 1963 dollars with residential construction accounting for some \$1,700 million or 36.0 per cent of the total, while non-residential construction will range around \$3,000 million or 64.0 per cent. Recent trends in the Region indicate that construction activity will fluctuate around 6.0 per cent of the Provincial total reaching some \$280 million in terms of constant 1963 dollars by 1976. The residential sector will account for some \$93 million or one-third of total construction activity whereas the non-residential component will be responsible for some \$187 million or two-thirds of the regional total.

TRADE

Retail Trade

In 1961, the 4,023 retail outlets in the Lake St. Clair Region recorded sales with an aggregate value of \$396.7 million, equivalent to 6.4 per cent of the Provincial total, and representing an increase of 41.4 per cent over 1951. Reflecting the difference in the population size of the three Counties, the geographic distribution of total sales was rather uneven, Essex's share amounting to 56.5 per cent while Lambton and Kent accounted for 22.4 per cent and 21.1 per cent, respectively. Marked inequalities also become apparent when the County data are examined with respect to decennial growth. During the period under review, Lambton experienced an increase of 67.4 per cent in sales volume compared with gains of 36.5 per cent and 32.3 per cent recorded in Essex and Kent.

Turning to the municipal level, the Region's three major urban centers—Windsor, Sarnia and Chatham—accounted for almost three-fifths of the regional sales total in 1961, their relative shares being 31.5 per cent, 15.0 per cent and 11.0 per cent, respectively.

During the intercensal period, the Lake St. Clair Region and Ontario experienced an over-all growth in retail sales per capita of 16.7 per cent and 24.8 per cent, with the result that the Region's per capita sales figure rose to \$882.0, while the Province's reached \$995.3. Within the Region's constituent Counties, sales per capita rose to \$870.5 in Lambton, \$867.3 in Essex and to \$937.4 in Kent during the decade. These figures represented net gains of 22.8 per cent, 14.8 per cent and 17.1 per cent respectively, over 1951. It should be noted that per capita sales have grown more rapidly and reached a higher level in the Province than in the Region and its component Counties.

The Region's 1961 retail sales total was equivalent to an average of \$98,605 per outlet, which was \$20,395 below the comparable Provincial figure. A similar analysis of the County data reveals that the outlets in Lambton and Essex had almost identical sales averages of \$101,834 and \$101,338, respectively, as compared with Kent's comparatively small average of \$89,180.

TRADE

Almost three-fifths, or 28.6 per cent and 29.9 per cent, respectively, of the Region's 1961 retail sales total of \$396.7 million was contributed by the outlets in the Food and Automotive Groups. Ranking next in importance were the Miscellaneous Retail Stores Group (14.5 per cent), General Merchandising (9.8 per cent) and the Hardware and Home Furnishings sector (9.8 per cent).

The importance of the contribution which these enterprises make to the regional economy becomes evident when it is pointed out that in 1961 they provided employment for 17,755 individuals, 3,388 of whom were classed as working proprietors, with an aggregate payroll amounting to \$37.3 million.

Services

In 1961, the Lake St. Clair Region contained 2,383 service industry outlets with total receipts of some \$68 million. Essex, with its larger than proportionate share of the Region's population, accounted for 63.6 per cent of total sales while Lambton and Kent contributed 19.7 per cent and 16.7 per cent. On the county level, Lambton's increase of 105.9 per cent was the largest recorded during this period, far exceeding the gains of 59.0 per cent and 58.6 per cent experienced by Essex and Kent, respectively.

When the Provincial, regional and county service industries are compared on the basis of average receipts per outlet, the Province is leading with an average of \$36,723, while the comparable figures for the Region, Essex, Lambton and Kent are \$28,555, \$31,190, \$27,977 and \$22,022, respectively.

With 56.0 per cent of the total, the outlets in the Hotel, Tourist Camp and Restaurant Group accounted for the largest share of the industry's total receipts in 1961. Next in importance was the Personal Services sector, whose share of the industry's total sales amounted to 15.3 per cent. The balance, 28.7 per cent, was divided somewhat unevenly between the six remaining groups: Amusement and Recreation (8.1 per cent), Business Services (8.1 per cent), Miscellaneous Services (5.0 per cent), Repair Services (3.5 per cent), Funeral Services (3.2 per cent) and Photography (.8 per cent).

The significant role which this industry plays in the economic life of the Region is evidenced by the fact that in 1961 it provided permanent income for 2,277 working proprietors and 7,566 employees, with wages and salaries totalling \$16.8 million.

Wholesale Trade

The total value of the transactions recorded by the Region's 811 wholesale trade outlets in 1961 was \$308 million. Equivalent to 5.0 per cent of the corresponding Provincial aggregate, regional wholesale volume experienced an increase of 15.7 per cent over 1951. Closer analysis reveals that 52.4 per cent of the total was accounted for by Essex, 29.2 per cent by Kent and 18.4 per cent by Lambton. Their rank is reversed,

LAKE ST. CLAIR REGION ECONOMIC SURVEY

however, when growth of sales is used as the criterion, since during the period under review Lambton experienced an increase of 79.4 per cent, while Kent and Essex recorded gains of 20.7 per cent and .1 per cent, respectively.

With an average of \$379,727 in sales per outlet in 1961, the wholesale trade industry in the Lake St. Clair Region ranked well below the Provincial industry, with a comparable figure of \$606,253 per establishment. When the county data are examined, the average wholesale location in Kent had sales of \$424,174 per annum, while in Essex and Lambton the averages were \$384,002 and \$317,055, respectively.

In addition to performing an important intermediary trade function, the industry creates a considerable number of employment opportunities: in 1961, it provided income for 5,124 workers receiving \$19.8 million in wages and salaries.

Summary and Outlook

The number of retail outlets in the Region increased from 3,681 in 1951 to 4,023 by 1961 with a rise in sales from \$280.6 million to \$396.7 million during the decade. While retail sales in the Lake St. Clair Region increased in absolute terms, the relative share of the Provincial total declined from 6.8 per cent in 1951 to 6.4 per cent by 1961 reflecting the moderate economic activity in the Region during the second half of the ten-year period under review. Per capita retail sales, however, showed an appreciable rise from \$755.8 in 1951 to \$882.0 in 1961, although remaining below the Provincial levels of \$895.3 and \$995.3, respectively. The relative proximity of the Region to the United States and particularly the Detroit area in part account for the lower per capita sales.

RETAIL TRADE STATISTICS, LAKE ST. CLAIR REGION AND PROVINCE, 1951 AND 1961			
	Number of Stores	Retail Sales \$000's	Per Capita Sales \$
1951—Region	3,681	280,591.4	755.8
Ontario	50,119	4,116,372.5	895.3
Region as % of Ontario	7.3	6.8	
1961—Region	4,023	396,688.9	882.0
Ontario	52,157	6,206,684.5	995.3
Region as % of Ontario	7.7	6.4	

Based on past and current trends in the Province, it is expected that retail sales will continue to account for a significant portion of personal income. By 1976, it is estimated that retail sales in the Province will reach some \$13.1 billion in constant 1961 dollars while the Region's share in the Provincial total will fluctuate around 6.9 per cent or \$905 million in constant 1961 dollars. Based on the Department's population projections, per capita retail sales will reach some \$1,500 in the Province

TRADE

and \$1,460 in the Region, in terms of constant 1961 dollars. The wholesale trade volume in the Lake St. Clair Region is expected to follow a similar pattern during the forecast period.

TOURIST TRADE

Endowed with the warmest climate in Eastern Canada, miles of sandy beaches, an unusually rich historical heritage and a location which is readily accessible to millions of people in both Canada and the United States, the Lake St. Clair Region attracts thousands of tourists each year. Although tourist expenditures account for only a small proportion of the total regional income they nevertheless create a considerable number of employment opportunities. Reflecting the gradual decrease in the length of the average work week and the steady increase in the propensity to travel, the tourist industry is likely to occupy an even more prominent position within the regional economy over the next decade than is currently the case.

Historical Background and Attractions

A brief review of the early history of the Lake St. Clair Region explains why historically-minded tourists find visits to this part of the Province to be particularly rewarding. The first point to be noted in this connection is that it was probably among the first inland parts of the continent to be visited by Europeans, since there is good reason to believe that Champlain and Brûlé traversed the district during the early years of the seventeenth century. The next such visit took place in 1669 when La Salle arrived, accompanied by several missionaries. A few years later he returned in his famous ship, The Griffon—the first vessel to ply the Great Lakes above Niagara Falls.

The first permanent white settlement in the Region came into existence around 1750 on a site located in the present day Town of Ojibway. Its development was a consequence of the policy of the French authorities in Detroit to encourage farming in the district in the hope of obtaining thereby a source of supply for their other outposts. The influence of these early settlers, with their long, narrow farms, can be detected even today in the street pattern of the City of Windsor. Similarly, motorists using King's Highway No. 39 (The Lake St. Clair Trail) are confronted with visible evidence of the district's French background in the form of a number of communities which, as in the Province of Quebec, centre about

TOURIST TRADE

a beautiful Roman Catholic Church.

With the defeat of Montcalm's army at Quebec in 1759 virtually all of France's North American possessions passed into British hands. Unfortunately, the Indians who lived on the banks of the Detroit River found the British officials and traders who moved into the district in the following years to be less to their liking than their French predecessors. In 1763 this resentment gave rise to the famous Pontiac Company—an uprising led by Chief Pontiac which would probably have resulted in the capture of Detroit had the British not been forewarned.

It is interesting to note that during the three year period when Detroit was under siege, Pontiac attempted to obtain the food which his forces required by granting land to the French settlers on the Eastern shore of the River. Visitors to the Hiram Walker Historical Museum in Windsor are privileged to see one of these deeds—the only document in existence, as far as is known, bearing Pontiac's signature.

The impact of the American Revolution on the Region was quite substantial since it resulted, first of all, in the transfer of the British administrative capital from Detroit to a site on the Canadian side of the River. Thus was born the Town of Sandwich, the first urban settlement in Southwestern Ontario. In addition, it led to the establishment, in 1796, of Fort Malden and to the founding, in the same year, of the nearby Town of Amherstburg. Fort Malden is now a National Historic Park where tourists, in addition to inspecting the Fort's earthworks, may tour museums containing a number of fascinating items relating to the early history of the district.

The most important consequence of the American Revolution, from the point of view of the Region's social and economic development, was the arrival of thousands of United Empire Loyalists—a hardy group of settlers who, moving inland along the St. Clair, Sydenham and Thames

Fort Malden, Amherstburg.

—Courtesy—Ontario Department of Tourism and Information.



LAKE ST. CLAIR REGION ECONOMIC SURVEY

Rivers, quickly carved homesteads and settlements out of Southwestern Ontario's damp and heavily forested wilderness.

Just as the Region's proximity to the United States had made it a favoured place of refuge for the Loyalists, so, during the War of 1812, it made it the scene of a number of important military engagements. The impact of this war was felt almost immediately in the Region because in 1812 the Americans struck across the Detroit River, landing at Walkerville, a part of present-day Windsor, and occupied the surrounding territory.

It should be pointed out here that during their brief occupation of this district the Americans used the home of a British officer, Colonel Francois Baby, as their headquarters. Still in existence, this building is now known as the Hiram Walker Historical Museum and houses an outstanding collection of personal and official documents as well as artefacts of the Indian and colonial periods.

Having compelled the American army to retreat across the River, a British and Canadian relief force under the command of Major-General Isaac Brock then proceeded to capture Detroit. A cairn now marks the spot on McKee's Point from which this attack was launched. However, an American naval victory on Lake Erie during the following year made Brock's position untenable and enabled the American forces to recapture a large portion of Southwestern Ontario, including Fort Malden. They continued to occupy this territory until the Peace of Paris ended the war on Christmas Eve, 1814.

The British and Canadians effected their withdrawal from the Region by retreating along the Thames River, fighting rearguard battles as they went. One such engagement took place at a site in the present City of Chatham which is now known as Tecumseh Park. This name, it should be pointed out, was chosen to honour the memory of a great Shawnee Chief-tain who made an important contribution to the defence of Canada's Western frontier during this War. The Tecumseh Cairn in the Indian Reservation on Walpole Island marks his last resting place.

Another, more significant, battle was fought shortly afterwards at Moraviantown (Thamesville), farther up the Thames. It resulted in the death of Tecumseh and the defeat of the British General, Proctor. Another noteworthy consequence of the Battle of Moraviantown was the complete destruction of a Moravian mission to the Delaware Indians which had been established in 1792. This site is now known as Fairfield Village and is occupied by a museum which contains a number of interesting relics of the pioneer period.

Also worthy of mention in any discussion of the Region's historical background is the fact that it was the scene of the Battle of Windsor, one of the last engagements in the so-called "Patriots War" between American-based followers of William Lyon Mackenzie and Government troops. Fought in the early hours of Dec. 4, 1838 in and around the Francois Baby

TOURIST TRADE

Estate, this battle ended in the rout of the 'patriots'. The site of this engagement is now marked by a tablet.

The early history of the Lake St. Clair Region was also greatly enlivened and enriched by the discovery of oil in Enniskillen Township, Lambton County in 1857. Later that year North America's first commercial oil well went into production in the Town of Oil Springs, southeast of Sarnia. This town is now visited each year by thousands of tourists who come to see "The Story of Oil" in the Oil Museum of Canada. Nearby Petrolia is also a source of great interest to tourists since it was Canada's first Oil Capital and was at one time the home of fifteen oil refineries.

Visitors to this part of Lambton County will immediately realize, however, that the oil industry is still a vital factor in the Region's economy, since oil rigs, many more than a century old, can be seen in operation at a number of locations.

The importance of the 1850's in the history of the Region also derives from the fact that it was during this decade that the Region experienced its first influx of fugitive slaves from the United States. Spirited out of that country by the famous "Underground Railway," these slaves were responsible for the establishment of several communities in the Counties of Essex and Kent. Typical of these were South Buxton, near Chatham, New Canaan, southwest of Essex (town) and Elgin, in Raleigh Township.

By far the best known slave to find freedom in this country was the Reverend Josiah Henson, whose ordeal as a slave prompted Harriet Beecher Stowe to write her famous novel "Uncle Tom's Cabin". Settling in the Town of Dresden, he there established a Manual Labour School for the purpose of training fugitive slaves. His grave is located there and is visited by a considerable number of tourists each year, as is his home, which contains many interesting relics relating to his work.

The link between the Region and the slavery controversy was further strengthened in 1858 when John Brown, the fiery abolitionist leader who was later executed for his part in the raid on Harper's Ferry, visited Chatham in search of support for his plan to overthrow the allegedly pro-slave government of President Buchanan. During his brief visit there Brown drafted a new constitution for the United States and formed a Provisional Government. Two buildings in Chatham help to keep alive the memory of this incident: his temporary lodging on King St., and the First Baptist Church, the site of the closing sessions of the constitutional convention.

The above discussion provides only a partial list of the historical attractions to be found in the Region. Among the other museums which deserve mention are the Chatham-Kent Museum (Chatham), the Pilot House Museum (Corunna), the Forest-Lambton Museum (Forest), the Eisenbach Museum (Grand Bend), the Rondeau Provincial Park Museum (Morpeth) and the Antique Car Museum (Watford). Of related interest is Bayview Park in Point Edward. It contains an old steam locomotive and a

LAKE ST. CLAIR REGION ECONOMIC SURVEY

Spring Pole Drill Rig which was used to drill for oil about one hundred years ago.

Historical sites not yet mentioned include the plaque on King's Highway No. 40, north of Wallaceburg, where Lord Selkirk's Scottish settlers established themselves in 1804 and the cairn at Trinity Church, east of Morpeth, which perpetuates the memory of Archibald Lampman, one of Canada's greatest poets.

It should also be pointed out that stately old homes abound throughout the Region. In addition, a number of churches dating back to the nineteenth century can be found there. Typical of these is Christ Church, Bellevue, in Amherstburg, which was built in 1818-19. Of architectural interest is St. Mary's Anglican Church in Windsor, reputed to be one of the finest examples of perpendicular Gothic architecture on the Continent.

The University of Windsor, dating back more than two hundred years to 1748, when Father Armand de la Richardie founded a Jesuit mission for the Huron Indians, will also be of interest to tourists with a sense of history. The Assumption College building, the oldest structure on the campus, was completed in 1857. It is of interest to note that during the Fenian Raids British troops were garrisoned in this building in readiness for an expected American invasion. In addition to housing older, traditionally-designed buildings such as this one, however, the Campus also

St. Mary's Anglican Church, Windsor.

—Courtesy—Ontario Department of Tourism and Information.





—Courtesy—Ontario Department of Tourism and Information.

Assumption College, Windsor.

contains a number of new, modern structures since the University is now in the midst of a \$28,000,000 capital expansion programme.

Recreational Facilities

A considerable number of the tourists who visit the Lake St. Clair Region each year are attracted by its excellent outdoor recreational facilities. These include, in addition to hunting and fishing areas, beaches, golf courses, toboggan and ski slopes, nature trails, camping grounds and picnic areas. Beaches occupy a particularly prominent position in this listing since the Region has the warmest climate in Eastern Canada and is bounded by water on three sides.

Many of the best recreation areas in the Region are to be found in its six Provincial Parks: Clay Creek, Holiday Beach, Ipperwash, Pinery, Rondeau and Wheatley. With a total area of approximately 17,000 acres these parks, in 1966, attracted more than 1.4 million visitors.

Clay Creek, the smallest of the six, is located on the banks of the St. Clair River. Although it lacks a beach the Park does have fine picnic and camping facilities and a dock for small craft. In addition, it boasts an excellent view of the Great Lakes Navigation Route.

Pinery and Ipperwash Provincial Parks are both located on the shores of Lake Huron. The former is popular in both summer and winter since it has facilities for swimming, boating, bird-watching, hiking, skiing, sledding and open air skating. Like the nearby Walker Hills ski development, it has both ski tows and equipment for producing artificial snow.

LAKE ST. CLAIR REGION ECONOMIC SURVEY

Considerably smaller than Pinery, Ipperwash is noted primarily for its fine sandy beach. It should also be pointed out, however, that visitors to this Park are always interested by the large, round rocks of unknown origin which dot the shoreline.

The remaining Parks, Holiday Beach, Wheatley and Rondeau are on the shore of Lake Erie. Swimming and duck hunting are the activities for which Holiday Beach is best known. Wheatley, on the other hand, is still under development.

Rondeau Provincial Park is distinguished both by its splendid beaches and by the fact that it contains one of the few examples in Canada of natural stands of the Mississippi Southern Hardwood Forest Type. This forest association extends into Ontario only along the Lake Erie Shore and includes such species as the tulip tree and the magnolia. In addition, Rondeau has become famous as a bird migration observation point.

The Lake St. Clair Region is also the home of Point Pelee National Park—a six square mile haven for vacationers located on the southernmost tip of the Canadian mainland. Famous for its fine silvery beaches, this Park also succeeds in attracting a large number of visitors each year who are interested in hiking, camping, fishing, particularly smelt fishing, and wildlife observation. The Park is particularly well-suited for the latter activity since it contains an animal and bird sanctuary and a wooden walkway which extends out over the marsh for a considerable distance.

Approximately fifteen miles southwest of Point Pelee National Park lies another of the Region's major vacation areas, Pelee Island. The former summer home of three American Presidents (Taft, Harding and Cleveland), Pelee is exceedingly popular with pleasure boat operators, thousands of whom visit its pleasant bays and make use of its excellent docking facilities every summer. Air and water connections with both the United States and Canada provide easy access for the thousands of other visitors who come each year to swim, fish, hunt or to simply enjoy the flavour of island life.

The island's popularity with hunters is, to a considerable extent, a consequence of the annual Pelee Island Pheasant Shoot, organized by the Ontario Department of Lands and Forests. The 1963 Shoot attracted slightly more than 1,000 hunters and resulted in the bagging of approximately 8,500 birds.

Mention should also be made in any survey of the Region's recreational facilities of the four parks operated by the Sydenham and Ausable Valley Conservation Authorities. The former organization maintains a seventeen acre park one mile northeast of the Town of Shetland, while the latter operates parks with a total area of forty-nine acres near the Towns of Thedford, Port Franks and Arkona. Probably the most interesting of the four is Rock Glen Park, north of Arkona, since its attractions include both a scenic waterfall and fossil beds containing specimens

TOURIST TRADE

more than 280 million years old.

Lying as it does, directly in the path of the migratory birds which every spring and autumn make their way between Canada's sub-arctic regions and the southern United States, the Region offers excellent opportunities to both duck and geese hunters and naturalists. The former are drawn to the Rondeau, Holiday Beach and Walpole Island areas, while the centre of interest for the latter is Jack Miner's world famous bird sanctuary, three miles north of the Town of Kingsville. The sanctuary has welcomed several million visitors since its inception in 1904 and consequently ranks as one of the Province's greatest tourist attractions. In the spring and autumn as many as 10,000 people gather at a time to watch the late afternoon and evening flights.

In addition to serving as a tourist attraction the Miner Sanctuary also concerns itself with the important task of studying the migratory behaviour of Canada geese. To this end, its experts trap and band a large number of the more than 30,000 geese which marshal there during the migratory periods.

Bob-Lo Park, situated on Bois Blanc Island, opposite Amherstburg, is also very popular with tourists. Its attractions include picnic areas, playgrounds, amusement rides and a scenic, three mile tour of the island on a miniature train. They annually draw more than 750,000 tourists, a large proportion of whom are Americans. During the summer months the island is linked with Detroit and Amherstburg by regular boat service. It

Canada geese at the Jack Miner Bird Sanctuary near Kingsville.

—Courtesy—The Globe and Mail.



LAKE ST. CLAIR REGION ECONOMIC SURVEY

is also accessible to pleasure boat operators, however, since it has one of the finest marina's on the Detroit River.

General

The attractiveness of the Lake St. Clair Region to tourists is also attributable to its high level of urban and industrial development. Visitors to the Sarnia district, for example, are always fascinated by its complex of petroleum refineries and chemical plants. Impressive enough at any time, it is doubly so in the evening when the flares are more plainly visible. Among the internationally known companies located there are Dow Chemical of Canada Limited, Imperial Oil Limited, Polymer Corporation Limited and Sun Oil Company Limited.

Similarly, Windsor's position as the Automobile Capital of the Commonwealth makes it a source of considerable interest to tourists since many of the companies in the industry offer group tours of their facilities. Typical of these are Chrysler Canada Limited and McKinnon Industries Limited, a subsidiary of General Motors. Also open to adult visitors is the plant of Hiram Walker and Sons Limited, one of the world's best-known distillers.

As Canada's tenth largest metropolitan district Windsor also offers a wide range of opportunities for tourists interested in shopping, night-life, fine restaurants and cultural attractions. Those in the last category find the Willistead Art Gallery, formerly the Hiram Walker Estate, much to their liking, since it contains an excellent and rapidly growing collection of Canadian art. Tourists who enjoy the attractions to be found in large urban centres are also drawn to the Windsor district, however, by the fact that it lies within a few minutes drive of Detroit, one of North America's largest cities.

A visit to the Detroit-Windsor area is particularly rewarding during the first four days of July, that is to say, between Canada's Dominion Day holiday and the American Independence Day holiday since every year during this period these two cities stage a joint celebration known as the International Freedom Festival. An extremely ambitious undertaking, this celebration involves parades, cultural and sports events and a spectacular fireworks display launched from barges in the middle of the Detroit River. The last attraction, it is interesting to note, is the largest annual display of its kind in North America and is usually witnessed by more than 500,000 people.

COUNTIES AND MUNICIPALITIES

ESSEX COUNTY

Although Essex County has the smallest land area of the Region's three Counties, some 452,480 acres in all, it has one of the largest populations in the Province of Ontario — 258,000 in 1961, estimated at 277,000 in 1966. This population is dispersed over a city, six towns and two villages.

While most of the Region is underlain by black slate, Essex County has a limestone bedrock, which actually outcrops on Pelee Island. The whole of Essex County is included in the St. Clair Clay Plains. The Essex Plain covers almost all of the County, and is a till plain which is modified by post-glacial wave erosion and lake-deposition. While the area is level, natural drainage is, to a certain extent, created by slight terrain undulations. This is further improved by artificial drainage.

Historical Background

The County's first white settlers were of French origin, and consequently some one-fifth of Essex' population have a French background. During its early days, this frontier County was known as the Detroit River Region, a twenty-by-thirty mile rectangular peninsula whose south, west, and north shores meet the waters of the Detroit River, Lake Erie and Lake St. Clair. It is the only locality in the Province of Ontario that can lay claim to a continuous settlement antedating the British conquest. Although American areas were explored before 1700, settlement came later, and around the mid-eighteenth century French settlers began clearing the first ribbon-like farms on the east shore of the strait. By the late 1780's one hundred and fifty farm lots covered the frontage from a point four miles below La Riviere aux Dindes to Lake St. Clair. That the area represented land worth having has been enthusiastically noted by Lajeunesse "... by the close of the seventeenth century the Detroit River region, no man's land between the English and Iroquois on the one hand, and the French, Algonquins and Hurons on the other, had been sufficiently explored and visited to make both the French and the English burn with desire to occupy that most beautiful and strategic position on the world's finest system of interior waters."

LAKE ST. CLAIR REGION ECONOMIC SURVEY

Little wonder that after the French flag was unfurled in Detroit, and then likewise, the English flag, after the recognition of United States independence under the terms of The Treaty of Paris in 1783, the frontier region on the other side of the River beckoned to United Empire Loyalists. Such a movement was further strengthened by the Constitution Act of 1791, witnessing the emergence of Upper Canada. However it was not until 1796 that the Stars and Stripes actually replaced the Union Jack, rendering the Detroit River in fact the political boundary between the United States and Canada, and thus considerably increasing the population of this area.

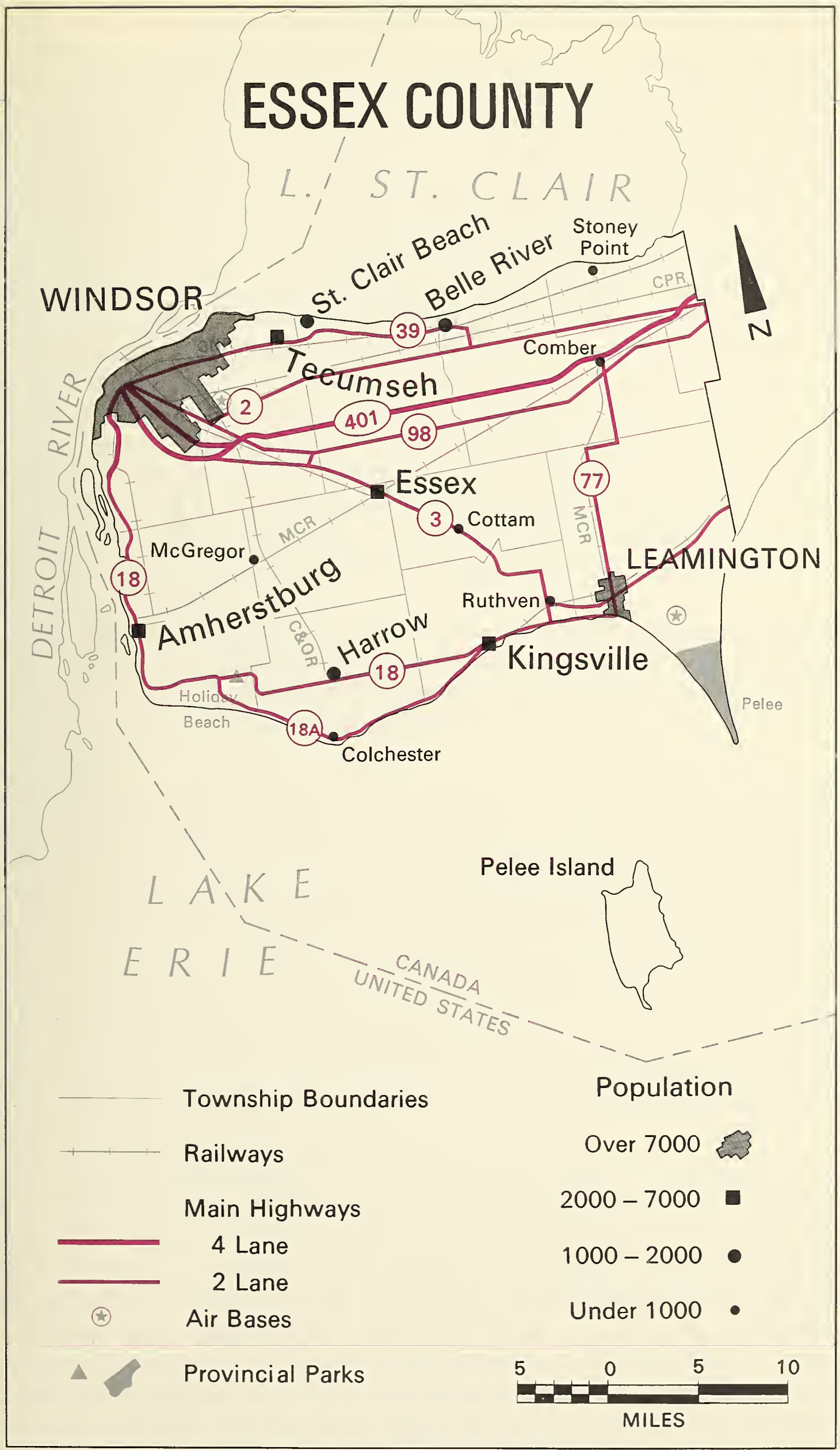
The year after the Constitution Act saw Essex County emerge as an official distinct entity, under a proclamation of July, 1792 dividing the Western District into the Counties of Kent, Essex, and Suffolk. Essex County, named by Governor Simcoe, had as its boundaries Lake Erie from Pointe aux Pins to the Detroit River, on the south; on the west it was bounded by the Detroit River to Maisonville's Mill, thence to a line running parallel to the Detroit River and Lake St. Clair for four miles until reaching the River Thames, by which it travelled up the river to Pointe aux Pins. These boundaries of Essex lasted until the end of the century, when a new proclamation was issued. This Act, introduced on January 1st, 1800, effected a better division of the Province of Upper Canada.

Since attaining this status, Essex has developed to a stage where more than 85 per cent of its inhabitants are urban-dwelling. Thus the area possesses a high population density—365 people to the square mile, far in excess of the two other regional Counties. Racially and ethnically diversified, the majority population consists of Caucasoids, the remainder including Negroes and Indians. The French-Canadian population, basically concentrated in Metropolitan Windsor, has experienced a natural increase rather than one effected by migration. During the decade 1951-1961 the County experienced a net population growth of about 19 per cent.

Manufacturing

Manufacturing in the County gives employment to one-third of the labour force. Almost 520 manufacturing establishments were in business during 1962, producing nearly half the Regional manufacturing output. Nearly one hundred of these establishments are engaged in food and beverages production, and almost twice as many in transportation equipment. The automotive industry is by far the leading industry in the County with the result that population growth during this century appears to have been closely correlated to the fluctuations in automobile production. The Windsor area is most noted as the centre of the automobile industry, situated as it is in a strategic international position. Consequently three-quarters of Essex' labour force work here, while the large number of high-paying assembly jobs gives the County claim to the fourth highest average manufacturing income per worker in the whole Province.

ESSEX COUNTY



Township Boundaries

Railways

4 Lane

2 Lane

 Main Highways

Air Bases

Provincial Parks

Population

Over 7000

2000 – 7000

1000 – 2000

Under 1000

5 0 5 10

MILES

COUNTIES AND MUNICIPALITIES

Agriculture

The importance of Essex food processing industries, in Windsor, Leamington and Harrow among other centres, underlines the County's agricultural importance. Essex County has the most favourable climate in the Province for agricultural production, possessing, in Pelee Island, Canada's most southerly tip. The County has about 452,000 acres of farm land occupied by some 4,900 farmers. It experiences the longest growing season in Canada—extending between 203 and 213 days in duration. The light textured soils are particularly good for horticultural crop growing, while generally the favourable soil and climatic conditions allow the successful production of a large variety of cash crops, such as corn, winter wheat and tomatoes. In 1961, 35 per cent of the County's farm income was derived from vegetable and greenhouse products, 31 per cent from livestock and livestock products while field crops accounted for 31 per cent. Vegetable production in 1964, valued at \$6.4 million, represented one-quarter of Ontario's value of vegetable production, while the County contains the largest and most intensive greenhouse vegetable growing area in Canada, covering one-half of the Province's total greenhouse area.

Although Essex County's pasture land has been steadily reduced, the beef cattle industry has experienced appreciable expansion. Farms in the County are highly mechanized, and the years since 1961 have witnessed a steady rise in agricultural land prices.

Scenic Sites

The County has a considerable number of locations of historical interest, derived from a history dating back a few centuries, with the first permanent white settlement coming into existence around 1750 at the Town of Ojibway. Early communities include the Town of Amherstburg, New Canaan and the Town of Sandwich, while buildings of architectural interest can be found in Windsor, particularly on the University campus. One of the Region's six Provincial Parks, Holiday Beach, is in Essex, while Point Pelee National Park, also an outdoor recreation spot with miles of sandy beaches, acts as a gateway to the popular Pelee Island. A prime tourist attraction in the County is Jack Miner's famous bird sanctuary near Kingsville, a viewing point for millions of people over the years.

Transportation and Communication

Being located at the heart of the Great Lakes industrial complex, few difficulties are encountered by Essex County in the way of transportation facilities. All regional railways, both freight and passenger, serve the County. Service includes a daily freight connection with Buffalo, New York State. The County's roads are largely urban and the area is served by thirteen King's Highways. The major route, the Macdonald-Cartier Freeway, runs through to Quebec from Windsor, a development in keeping with the increased number of cars emerging on the Continent's roads each year, and with the intensive industrial development of the Windsor-

LAKE ST. CLAIR REGION ECONOMIC SURVEY

Montreal linear belt.

Eighteen communities in the County are served by trucking companies, some operating on an international scale. Water transport is facilitated by seven shipping ports, loading and unloading such freight as chemicals, oils, sand and gravel, bituminous coal and salt, each of which holds significance for the regional economy. At most of the ports, the trend has been toward increased coastwise traffic, measured by total tonnage. Windsor, situated as it is on the busy Detroit River, is the most important. The two waterways used for commercial purposes are the Detroit River and Lake St. Clair itself. Air transport is obtainable at Leamington, Pelee Island and Windsor, the latter serving major airline routes. Gas pipelines run through the County, while the County's crude oil output has increased due to the discovery of several new oil fields since the 'fifties.

Essex County is served by four independent telephone systems and the Bell Telephone Co. which accounts for some 97 per cent of the total number of telephones in operation. Five radio stations, one television station and eight newspapers provide communications media for the County.

The City of Windsor (assessed population, 1965: 185,958) acts as Essex County's administrative centre, and is the Region's largest community. With an estimated population of 206,000, its Metropolitan Area ranks tenth in Canada.

Before the white man arrived on the scene, Indian villages were located at the river's narrowest point. The French erected their Detroit fort in 1701, followed by settlement along both banks of the Detroit River, remaining after the British took over in 1763. When the fort was given to the Americans in 1796, many settlers moved to the Canadian side. Here, Sandwich became the administrative centre. Windsor developed immediately opposite to Detroit, at 'The Ferry'. In 1857 Windsor and Sandwich both became incorporated as towns, and since Windsor became the railway terminal, it grew rather quickly in size. Walkerville became established in 1858, and gained town status in 1890. Two years later Windsor, now having a population of 10,000, was made a city. Ford City was founded in 1904. It then became a town in 1915 and later was incorporated as the City of East Windsor in 1929. In 1935 the "Border Cities", as they were known, were amalgamated as the City of Windsor with more than 100,000 inhabitants. On January 1st, 1966, Riverside, Sandwich East Township and Ojibway were annexed to the City of Windsor.

Being situated on the Detroit River, opposite the car capital of the United States, Windsor is served by all the Region's railways, functioning as their focal point and by Highways 2, 3, 18, 39, 98, and the Macdonald-Cartier Freeway. This Freeway, spanning an important stretch of Canadian territory, gives the city access to major Canadian markets in the East.

COUNTIES AND MUNICIPALITIES

Interesting buildings in Windsor include the Hiram Walker Historical Museum, which houses a fine collection of personal and official documents, besides relics from the Indian and Colonial times, and Willistead Art Gallery, concentrating on the accumulation of Canadian works. St. Mary's Anglican Church represents a celebrated example of perpendicular Gothic in North America. The University itself dates back to 1748, while Assumption College is the campus' oldest remaining building, completed in 1857. As such, a contrast is provided between the old and the new, the latter taking shape in the form of a \$28 million building expansion programme, well advanced at the time of publication.

Windsor's location in relation to Detroit and relative nearness to Toronto also renders it an industrial center of considerable importance, a fact well emphasized by its own automotive industry, the spearhead of Canada's automobile producers. Out of a total manufacturing labour force in 1965 of approximately 36,000, as many as 22,700 were working in the automotive industry. The industry's 'big three', Chrysler, G.M. and Ford account for more than 14,000 of the Windsor work force. In addition, Windsor has many companies either directly manufacturing transportation equipment or supplying those industries—such as the metal fabricators and the primary metal companies that supply various components and parts for the assembling of a complete automobile. In 1962 Windsor's 289 establishments produced three-quarters of the County output and 37 per cent of the Lake St. Clair Regional total.

Assumption University, Windsor.

—Courtesy—Ontario Department of Tourism and Information.



LAKE ST. CLAIR REGION ECONOMIC SURVEY

The Chrysler and Ford plants are both big employers, the former being the largest in the Region, while the McKinnon plant of General Motors shares third place with Hiram Walker. Thus, from small beginnings, in 1904, Windsor's automotive industry has grown into one that conditions the welfare and livelihood of many thousands of families residing in the area. The Hiram Walker Walkerville plant acts as head office for its complete international organization, famed for its whiskeys and gin.

In the field of education, the Windsor area has fifteen secondary schools, one hundred and twenty primary schools, the Western Ontario Institute of Technology, the University of Windsor and a Teachers' College.

The City at present is in the midst of a number of urban renewal programmes, embracing plans for shopping centres, huge apartment complexes and hotel buildings. Particular features of the programme, supported by both Federal and Provincial authorities, are plans for a riverside park along the Detroit River, and low-rental housing. With respect to housing in general for the Metropolitan Area, construction began on 1,125 dwelling units in 1964, while builders completed work on 919 units, a considerably more active phase than in 1960. Expansion on the University campus should enable between five thousand and six thousand students to study there by 1970, while extensions to school buildings have already been planned. At the same time a vocational school is scheduled for construction.

Amherstburg is situated eighteen miles south of Windsor, along the Detroit River. With an assessed 1966 population of 4,400, the community is situated on highway 18, and served by the New York Railway System. It is a seaway port with a Department of Transport Wharf and Warehouse, a Navigation Aids Depot and Customs and Excise facilities, providing a Customs service on dock during the summer months for the purpose of small boats from the United States. At the port, 41.7 thousand cargo tons were loaded in coastwise shipping in 1964. Commodities were composed largely of chemicals and general cargo. In foreign shipping, 192.5 thousand tons of cargo were unloaded, comprising primarily bituminous coal and some limestone, while just 125 tons of machinery were loaded.

The Amherstburg area is the site for Fort Malden National Historic Park. Occupation of the land goes back as far as 1727, but the first permanent white settlement sprang up in 1784. Twelve years later a new military site became re-established by the British and came to be known as Fort Amherstburg or Fort Malden. Also in 1796 a townsite was laid out and occupied by Loyalists from Detroit. The fort served as a British base during the War of 1812, the year in which Detroit was captured. Once more it played a part in North American history, in 1838, when its garrison and the local militia repulsed four attempts by the "Patriot" filibusters to invade Canada in the Detroit River frontier. Until 1851 Fort Malden

COUNTIES AND MUNICIPALITIES

was garrisoned by British regiments, after which it was occupied by retired soldiers. This situation lasted up to 1859 when the Fort was abandoned.

In 1851 the municipality of Amherstburg separated from the township of Malden, becoming a village in possession of town powers. It became officially incorporated as a town in 1878. The town's industrial sector, though small is quite varied. Manufacturers engage in whiskey distilling ("Lord Calvert", "Calvert's Grand Prix", etc.), canning, automotive parts, industrial chemicals and stone quarry operations. Adjacent salt and limestone deposits are utilized in the manufacture of soda and clay products. At aggregate level, the town's manufacturing output value accounted for 4 per cent of Essex County's manufacturing activity in 1962, with a selling value of factory shipments amounting to \$22 million.

Leamington (assessed population, 1966: 9,379) is located on Lake Erie, 30 miles south east of Windsor, at the heart of an area known as the "Sun Parlour of Canada" by virtue of its climate. An interesting feature of the town's early history is that during the nineteenth century Leamington became a refuge for negro slaves fleeing the United States, many of whom continued further along the road to settle at Chatham, site of the area's main negro settlement.

Both soil and climate are conducive to the production of canning vegetables and high-quality hothouse and field crops. Leamington has thus become the home of the Commonwealth's largest tomato processing plant, owned by H. J. Heinz of Canada, a concern employing more than 3,000 people. Heinz products include such items as baby food, tomato ketchup and soups. During 1962 the town's 20 manufacturing establishments generated an output value of \$53 million, representing 9 per cent of the Essex County total and 4 per cent of Regional manufacturing production. Served by Highways 3, 18, and 77, Leamington is also on the Chesapeake and Ohio railway route, uniting the town with Windsor to the west and Toronto to the east, and on the New York Central System's fourteen mile Leamington Branch line, linking Leamington with the System's main line at Comber. Its port handled 1.3 thousand tons of foreign shipping cargo in 1964-65 and 4.8 thousand tons of coastwise shipping cargo, mainly food preparations and general commodities.

Essex (1966 assessed population of 3,600) is a small town on Highway 3, fifteen miles east of Windsor, served by the New York Railway. Once a lumbering community known as Essex Center, its few industries are now primarily engaged in the processing of foods and beverages, and the manufacturing of auto parts and other metal products.

Kingsville is another small town of 3,500 inhabitants. Jack Miner's Kingsville Bird Sanctuary on Highway No. 18, previously referred to, has endowed the vicinity with national fame. Birds at this Sanctuary are banded by the unorthodox method of biblical quotations. Served by Highways 3, 18 and 401, and by the Chesapeake and Ohio Railways, the

LAKE ST. CLAIR REGION ECONOMIC SURVEY

town's industry is basically comprised of tobacco farms and food and dairy producers.

KENT COUNTY

History

The municipal history of the County of Kent began with Governor Simcoe's proclamation in 1792 dividing Upper Canada into nineteen counties. However, not until 1841, was provision made for municipal government, and even then Kent was joined with Essex and Lambton to form what was known as the Western District.

Kent county has two most interesting settlements founded in its earliest days—the Baldoon Colony founded by Lord Selkirk in 1803, and the Moravian Mission Station at Moraviantown.

Economic Activity

The economy of the County is largely agriculture-oriented, with a fair degree of industrial development, much of the industry being based on agriculture.

The County consists of ten townships and has frontage on Lake St. Clair in the northwest, and Lake Erie on the south. The River Thames flows through the County in a southwesterly direction emptying into Lake St. Clair, while the Sydenham River crosses the northwest corner of the County. Administration of conservation of these two water sheds is the responsibility of the Lower Thames Valley and Sydenham Conservation authorities.

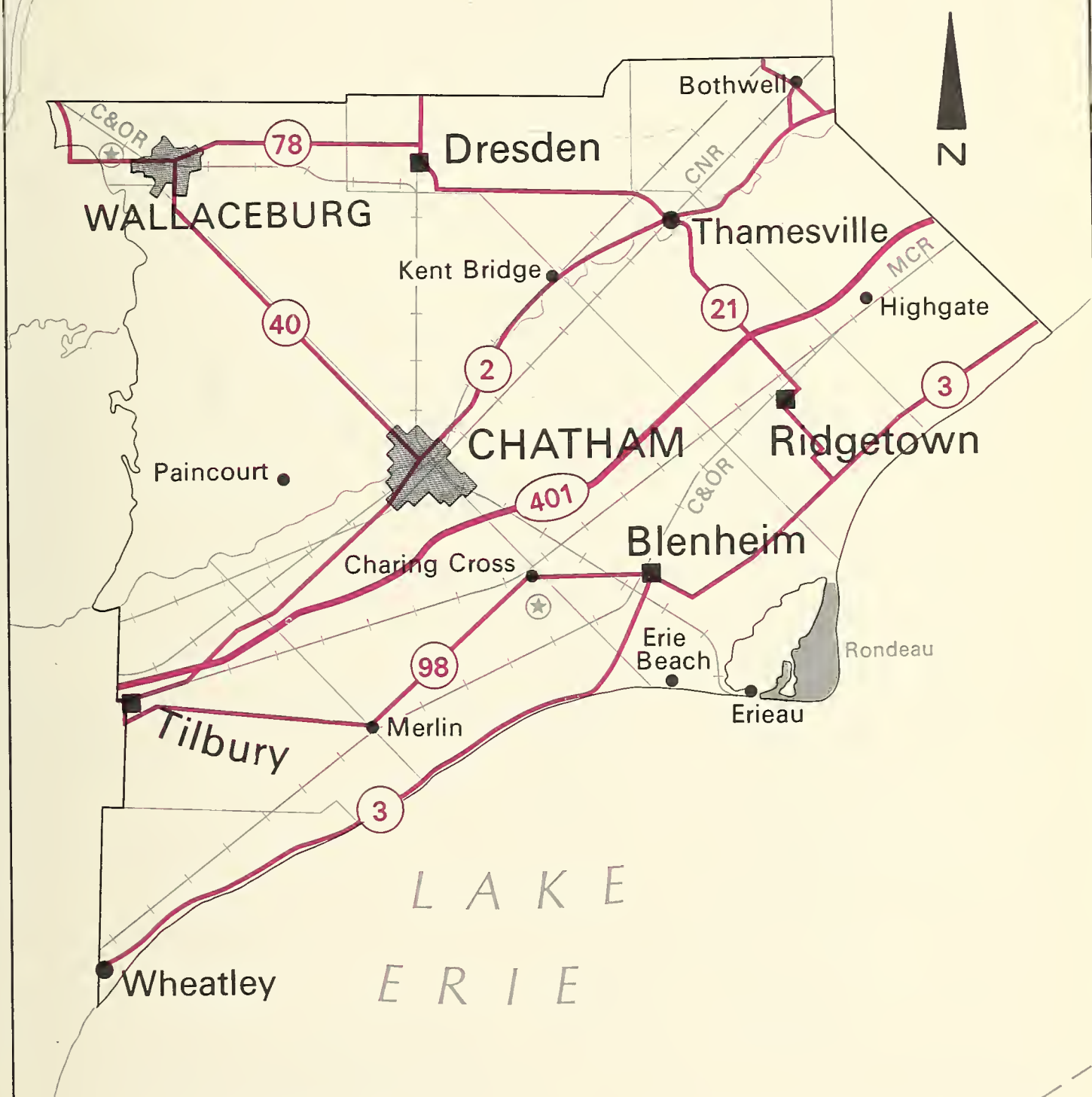
Kent County has approximately 550,000 acres of farm land, which supports 4,759 farmers (1961 Census). In 1964 the gross value of farm production amounted to 75 million dollars.

Commercial grain production is the backbone of Kent's agriculture with gross annual production in excess of \$30 million. Grains, such as corn, soybeans, winter wheat, oats, winter barley and white beans account for most of Kent's productive acreage.

Corn represents the most important crop in the County. Each year some 125,000 acres of corn is on demand by starch companies, distillers, breakfast food manufacturers, feed manufacturers, or used directly on farms. About forty five per cent of the Canadian production of soybeans originates in Kent County while over one-third of Ontario's tomato output is grown in the County as Kent's fertile soils show average yields of 19 to 20 tons per acre. Specialized crops, such as sugar beets, tobaccos, cucumbers, strawberries and apples are also grown commercially.

Livestock is an important aspect of Kent's agriculture as approximately 25 per cent of total farm incomes in the County is derived from the sale of livestock and livestock-products. Corn-finished cattle from Kent are in strong demand by packing houses while hog production is equally important with the County ranking third in Ontario's total output. Most of the milk produced supplies the urban areas in the County. Production of

KENT COUNTY



Population

Over 7000 

2000 – 7000 

1000 – 2000 

Under 1000 

Township Boundaries

Railways

Main Highways

4 Lane

2 Lane

Air Bases

Provincial Park



MILES

COUNTIES AND MUNICIPALITIES

hatching eggs is of great significance to the poultry industry.

TOTAL FARM INCOME FROM CROPS AND LIVESTOCK		
Field Crops		
	Acreage	Value
Commercial Corn	169,300	\$17,637,000
Soybeans	84,800	7,246,600
Wheat	76,400	5,924,500
White Beans	24,000	2,557,200
Oats	36,400	1,858,400
Winter and Spring Barley	6,000	325,000
Kidney Beans	2,000	160,000
Total Value of Field Crops		\$35,708,700
Specialized Crops		
	Acreage	Value
Burley Tobacco	1,552	\$ 2,064,910
Black Tobacco	550	300,000
Flue Tobacco	1,000	1,000,000
Tomatoes	6,187	3,500,000
Canning Peas	3,238	535,000
Potatoes	1,500	200,000
Sweet Corn	2,427	400,000
Cucumbers	n.a.	50,000
Lima Beans	n.a.	111,500
Onions	500	750,000
Fruits	1,200	1,500,000
Pedigreed Crops (incl. seed wheat, rye, barley)	26,000	2,500,000
Fresh Vegetables	n.a.	300,000
Red Beets	n.a.	231,500
Cabbage	n.a.	61,000
Pumpkin and Squash	n.a.	48,000
Carrots	n.a.	65,000
Green and Waxed Beans	n.a.	143,000
Sugar Beets	12,412	3,350,000
Seed Corn	5,600	500,000
Miscellaneous Fresh Fruits and Vegetables	n.a.	100,000
Total Value of Specialized Crops		\$17,709,910
Livestock		
	Number	Value
Hogs Marketed	170,500	\$ 6,500,000
Cattle Marketed	52,500	10,500,000
Calves Marketed	3,000	300,000
Sheep and Lambs Marketed	3,000	60,000
Poultry Production	n.a.	3,000,000
Dairy Production	n.a.	1,500,000
Total Value of Livestock		\$21,860,000
Total Farm Income from Crops + Livestock		\$75,278,610

Industrial Development

In 1962, there were 189 manufacturing establishments in the County, with 7,000 employees and a total of \$162.5 million in terms of factory ship-

LAKE ST. CLAIR REGION ECONOMIC SURVEY

ments.

The major centres of Kent's manufacturing activity are Chatham and Wallaceburg. In 1962, the selling value of factory shipments was \$108 million in Chatham and the wages and salaries of the 3,400 employees amounted to \$15.7 million. In the same year the manufacturing establishments of Wallaceburg employed 1,933 persons, with a total payroll of \$7.8 million, and factory shipments valued at \$26.7 million. These two centres combined accounted for 83 per cent of the value of the manufacturing production in the County.

The food and beverages industries form a major group in Kent. In 1961, the County had 59 establishments manufacturing or processing food and beverages. One of the major companies in this field is the Campbell Soup Company Ltd., Chatham, which, besides soup also produces vegetable juice. Libby, McNeill and Libby of Canada Limited manufacture canned and bottled food products. The Company's main plant is in Chatham, with a branch plant in Wallaceburg. The Canada and Dominion Sugar Company Limited is also located in Chatham. In 1961, Kent County accounted for 11 dairy factories, 2 slaughtering and meat processors and 2 poultry processors.

One of the County's major employers is the International Harvester Company of Canada Limited, Chatham, which produces motor trucks. In the field of primary metal industries, Wallaceburg is the home of the Wallaceburg Brass Limited which employs some 300 people. Major products are plumbing brass, die casting, aluminum, brass and steel casting.

Another manufacturing group of the County is engaged in the production of non-metallic mineral products. The Dominion Glass Company Limited in Wallaceburg, producing all types of processed and blown glass, is the town's largest employer.

Natural Gas

Substantial supplies of natural gas are obtained annually from local gas wells operated by the Union Gas Co. and other companies. In 1965 there were 290 producing wells in the County whose combined output accounted for 35 per cent of total regional production.

Transportation

Kent County is served by five railways and all major highways in Southwestern Ontario, while air service connections are also available.

City of Chatham

In the early 19th century, Chatham, at the head of Thames navigation, became Kent's leading community and County town, and built sailing crafts and steam boats, till in 1854, the Great Western Railway provided more efficient methods of transportation. Although the railroad captured from river and lake craft the profitable immigrant trade, Chatham continued to build steam boats and schooners in the early 1880's. About this time D. R. Van Allen, intrigued by the prospective opening of the West,



—Courtesy—Ontario Department of Tourism and Information.

The Chatham-Kent Museum, Chatham.

converted his shipbuilding enterprise to wagon-making. The wagon works of the Chatham Manufacturing Company became for years Chatham's largest industry, to be eventually taken over and expanded by International Harvester Company of Canada Limited.

At present, Chatham, with a population of over 30,000 and with about 70 industrial establishments is a vigorously growing centre of the County. The Canada and Dominion Sugar Company Limited, the largest beet sugar refinery in the Commonwealth, Campbell Soup Company Ltd., Libby, McNeill and Libby of Canada Limited, International Harvester Company and British Leaf Tobacco Co. of Canada, Limited are only a few examples of the thriving industrial activity of Chatham.

Wallaceburg (population over 10,000) is Kent's largest town. It has a diversified industry, and the locally manufactured products include glass, brass, die casting, canned vegetables and many other items.

Ridgetown (population 2,700) is an important shipping centre for agricultural produce, and it is the home of the Western Ontario Agricultural School.

LAMBTON COUNTY

The borders of Lambton County—formed on the north by Lake Huron, on the east by Middlesex County, on the south by Kent County and to the west by the St. Clair River—encompass an area of 1,124 square miles and a population which is estimated to have totalled slightly less than 103,000 in 1966. Thus, Lambton accounts for 40.9 per cent of the Region's land

LAKE ST. CLAIR REGION ECONOMIC SURVEY

area and approximately one-fifth of its inhabitants. Estimates prepared by the Department of Economics and Development indicate that by 1986 the County's population will lie between 238,200 and 250,200.

Virtually all of Lambton County is drained through the agency of rivers flowing into either Lake St. Clair or the St. Clair River, the only exception being a small strip of land north-east of Sarnia, for which Lake Huron serves as the drainage medium. From the physiographic standpoint, the County's dominant feature is the Lambton Clay Plain. Although well-drained, this land form has remained somewhat underdeveloped agriculturally. Consequently, woodlots and pasture farms are more frequently encountered there than in other parts of the Region. The Wyoming Moraine—a long, dagger-shaped formation which extends almost into the very heart of the County—and the Seaforth Moraine—a narrow, finger-like formation lying south-east of the above land form—are two other salient features of Lambton's physical geography.

The Stratford Till Plain is situated between these moraines, while the Ekfrid Clay Plain, the Bothwell Sand Plain and the Chatham Flats extend for short distances across the County's eastern, southeastern and southwestern borders. The Huron Fringe—the distinguishing feature of which is its abundance of fine, sandy beaches extends, as its name indicates, along the shore of Lake Huron.

Historical Background

The history of settlement in the County dates from the early years of the nineteenth century, at which time Lambton, in common with the other Counties in the Region, was part of an administrative division known as the Western District. Settlers did not begin to arrive in significant numbers, however, until after the conclusion of a treaty with the Chippewa Indians in 1827, since in the absence of such a treaty it had been impossible to survey the land properly. The abolition of the Western District in 1849 made possible and coincided with Lambton's emergence as a separate entity. Seven years later, Port Sarnia, a settlement which had been founded some twenty years earlier and which was then the only community of a significant size in the County, achieved town status. A city since 1914, Sarnia now has almost 53,000 inhabitants and ranks as the second most populous urban centre in the Region—a position which it enjoys by reason of its ability to attract increasing numbers of petrochemical establishments.

Primary Industries

Among the County's primary industries, agriculture is the one to which the most importance is attached. The importance of agriculture in the County's economy is illustrated by the fact that in 1961, 83.5 per cent of Lambton's 1,124 square miles were classified as farm land with a total agricultural output of \$22.2 million. Livestock and livestock products accounted for 76.4 per cent of this total, while field crops were responsible for an additional 18.9 per cent.

LAMBTON COUNTY



COUNTIES AND MUNICIPALITIES

Further examination of the data pertaining to agriculture reveals that in 1961 the County's farm acreage comprised 123,780 acres of unimproved land, 311,867 acres of land under crops and 27,159 acres of land devoted to other agricultural purposes. It should also be noted that in 1961, 75.5 per cent of the County's 4,206 farms were in the commercial category while the remainder was classified as either small scale or residential.

The primary sector of the County economy also embraces the oil and natural gas industries, both of which have been contributing to Lambton's development for roughly one hundred years. In 1964 the value of their respective outputs amounted to \$1.5 million and \$2.9 million.

Manufacturing

In 1962 Lambton was the site of 126 manufacturing establishments with a combined output of \$478.5 million in terms of factory shipments, representing an increase of 129.3 per cent over 1951 and equivalent to 38.0 per cent of the corresponding total for the entire Region.

The largest contributions to the value of the County's manufacturing output are made by the Petroleum Refining and Industrial Chemical industries. In 1962, for example, when the former industry comprised seven establishments and the latter three, they collectively accounted for 89.9 per cent of the aggregate selling value of the County's factory shipments, their respective output being valued at \$253.5 million and \$176.6 million.

Transportation

Well-served by railways, maritime carriers, airlines, trucking companies, highways and pipelines, Lambton County is covered by all transportation media. Its rail connections consist almost exclusively of track maintained by the Canadian National Railways and the Chesapeake and Ohio Railway. The transfer of goods by water is made possible by the presence within the County of two shipping ports—Sarnia and Courtright. These ports handle a large volume of traffic which in 1964 reached 3.8 million tons of cargo.

The availability of air transport services in the County is facilitated by the presence near Sarnia of a two-runway aerodrome at which both scheduled passenger flights to Toronto and a charter cargo service are obtainable. The 74 trucking companies which operate in the County serve a total of 15 communities. Lambton's road network, of which organized township roads account for the major portion, covers some 2,000 miles. With respect to pipelines, the County's facilities consist of portions of the Union Gas distribution and transmission system, a segment of the Inter-provincial Pipeline—a line which carries crude oil from Western Canada to the Toronto area via the United States—and sections of two products pipelines, operated by Imperial Oil Limited and the Sun Oil Company Limited.

Labour Force and Trade

In 1961, Lambton's labour force totalled 36,608, as compared with the

LAKE ST. CLAIR REGION ECONOMIC SURVEY

regional aggregate of 161,005, and was 75.2 per cent male. When the County figure is analysed from the industry division standpoint, one finds that almost three-quarters of these individuals may be categorized as members of the Manufacturing (28.6 per cent), Community, Business and Personal Service (17.5 per cent), Agriculture (14.1 per cent) and Trade (13.1 per cent) divisions. From the occupational standpoint the most important components of the County labour force were the Craftsmen, Production Process and Related Workers (25.8 per cent), Farmers and Farm Workers (14.1 per cent), Service and Recreation Occupations (12.4 per cent), Professional and Technical (11.5 per cent) and Clerical (9.7 per cent) groups.

The receipts of the County's retail trade, wholesale trade and services locations aggregated \$88.9 million, \$56.8 million and \$13.4 million, respectively, in 1961. Their payroll totals, in the above order, were \$8.0 million, \$2.9 million and \$3.0 million.

Housing Facilities

In 1961 there were 27,535 occupied dwellings in the County. Eighty-five per cent of these were single detached units, while flats and apartments accounted for virtually all of the remainder. Examination of the conditions of tenure reveals a similar degree of uniformity, since 78.9 per cent of these dwellings were owner-occupied. As regards their physical condition, 72.6 per cent were in a good state of repair, while those requiring either minor or major repairs accounted for 22.4 per cent and 5.0 per cent, respectively. It should further be noted that the overwhelming majority of these dwellings were equipped with all modern conveniences. This is well illustrated by the fact that 93.4 per cent of all dwellings had running water, 98.0 per cent had refrigeration facilities and that 88.8 per cent had at least one television set. The proportion of homes with automobiles amounted to 83.9 per cent.

Sarnia, with an estimated population of 52,300 in 1965, is currently Lambton's only city and the home of approximately one-half of its inhabitants. Largely because of its proximity to several of North America's largest industrial centres, its excellent transportation facilities and its possession of virtually unlimited supplies of water, Sarnia has enjoyed a high level of prosperity in recent years. This is reflected in the fact that its present population represents an increase of approximately 50 per cent over 1951.

Over the period 1951-61 the value of the manufacturing shipments originating in Sarnia rose from \$194.3 million to \$352.2 million, although the number of establishments increased by only one during the same period. Thus, in 1961 the City's 53 manufacturing establishments were responsible for 78.6 per cent and 30.1 per cent, respectively, of the total value of the shipments made by their counterparts in the County and the Region.

Sarnia's economic prosperity depends to a large extent upon the



—Courtesy—Ontario Department of Tourism and Information.

City Hall, Sarnia.

state of the petrochemical industry as the City's three largest employers are Polymer Corporation Limited (3,000 employees), Imperial Oil Limited (2,000 employees) and Dow Chemical of Canada (1,000 employees). The first of these concerns produces more than 40 different types and grades of rubber, while the second uses Canada's largest oil refinery to manufacture products such as gasoline, furnace fuel, petrochemical feed, bunker fuel and asphalt. In addition, Imperial manufactures industrial solvents and the basic chemicals used in the production of plastics, detergents, rubber, fibres and numerous other synthetics through the agency of a petrochemical plant located on a site adjacent to the refinery. The facilities of the third company—Dow Chemical of Canada Limited—are being utilized for the production of a wide range of chemicals and plastics such as chlorine, caustic soda, glycol, vinyl chloride, chlorinated solvents, hydrochloric acid, polyethylene and styrene.

Among the other petrochemical firms in the City are Cabot Carbon of Canada Limited and the Sun Oil Company Limited. The former employs some 140 people in the production of carbon black, while the latter has a staff complement of about 80 and is concerned with the manufacture of products such as motor gasoline, kerosene, stove oil, light and heavy fuel oil, petrochemical feed and butylenes.

The list of large-scale manufacturing operations presently located in Sarnia includes Fiberglas Canada Limited, Mueller Canada Limited and Coposite Insulations Limited. The first of these produces insulation

LAKE ST. CLAIR REGION ECONOMIC SURVEY

products, the second refrigeration and brass plumbing fittings and the third asbestos pipe covering. They have employment totals of 460, 338 and 25, respectively.

There were 475 retail sales outlets, 58 wholesale trade locations and 211 services industry locations in Sarnia in 1961. Their receipts aggregated \$64.5 million, \$25.4 million and \$7.8 million, respectively, while their payroll totals amounted to \$6.6 million, \$1.6 million and \$2.0 million.

Two newspapers—a daily and a weekly—and a radio station provide the City with a full range of communications media. It should be noted, however, that Sarnians are also able to avail themselves of the services offered by the radio stations, television stations and newspapers located in such nearby centres as London, Windsor and Detroit.

Sarnia is endowed with excellent transportation facilities and is served by King's Highways Nos. 7, 40 and 407, the Chesapeake and Ohio and Canadian National Railways, a seaway depth harbour and is situated in close proximity to a two-runway aerodrome. In addition, the City is a major discharge centre for the Interprovincial Pipeline, which carries crude oil from Western Canada, and serves as the Western terminus of two petroleum products pipelines.

CONCLUSION

This survey identifies and analyzes in depth the major economic, geographic and cultural aspects of the Lake St. Clair Economic Region. Located in the southernmost part of Ontario, the Region's socio-economic framework is characterized by a well-balanced economy which experienced considerable growth accompanied by steadily rising standards of living.

The Region's favourable location relative to major market areas in Ontario and the United States was instrumental in the development of a broad complex of secondary manufacturing facilities. Situated at the crossroads of an extensive network of rail, road and water transportation routes in close proximity to the United States, the Lake St. Clair Region has ready access to raw material sources, major distribution centres as well as to technical skills.

Dominated by the automotive and petrochemical industries, secondary manufacturing employs about one-third of the Region's labour force. As a result of the Automotive Free Trade Agreement with the United States, plans for expansion in the transportation and related industries are in progress while sizable capital investments are anticipated for the future. Continued growth in the petrochemical industry and food processing along with favourable developments in the automotive sector are expected to sustain a steady long-term growth of the Region's industrial output. Recent trends in the Region indicate that manufacturing output will range between 10.0 per cent and 10.8 per cent of Ontario's total output with a production volume of \$2.8 to \$3.0 billion (constant 1956 dollars). Assuming an average of \$2.9 billion (constant 1956 dollars) in 1976, total manufacturing output will grow at an annual rate of some 6 per cent over the 1962-1976 period.

Enjoying the mildest climate and one of the longest growing seasons in Ontario, agriculture occupies an important position in the Region's economy, providing employment for some 12 per cent of the regional labour force. A wide variety of crops are cultivated, including corn for husking, soybeans, winter wheat, tomatoes and vegetables for canning

LAKE ST. CLAIR REGION ECONOMIC SURVEY

while livestock production has gradually shifted from dairy cattle to beef cattle over the last fifteen years. Extensive use of agricultural machinery in many phases of farm operations has been increasing rapidly with the result that farms in the Region are now the most intensively mechanized in Ontario. Future developments in farming will depend not only on trends within the framework of the area's agriculture but also — and perhaps to an even greater extent — on the direction of growth in other sectors of the Region's economy. Among the external influences likely to affect agriculture, urban growth is expected to be a major factor. The growth of urban centres, the need to build highways and roads and the necessity to provide land for recreational uses will place additional demands on the rural areas in the Region. In recognition of the prominent place occupied by the area's agriculture, the loss of prime farm lands will undoubtedly be minimized by sound land-use planning and judicious zoning policies.

Although manufacturing and agriculture form the primary basis of the Region's economy, the tourist trade and associated service industries have become an important source of regional income over the last decade. Favourable climatic conditions, the abundance of parks and sandy beaches, and a wide variety of scenic and historical features have attracted a growing number of tourists resulting in accelerated development of recreational facilities and hotel or motel accommodation.

While the Region's economy is likely to be subject to short-run fluctuations, present indications suggest continued and sustained long-term growth accompanied by accelerated expansion and diversification of manufacturing output and steadily rising agricultural productivity.

STATISTICAL APPENDIX

CONTENTS

Population, Vital Statistics and Immigration:

Population of the Lake St. Clair Region, Counties, Census Years 1901 to 1961	133
Factors in the Growth of Population, Counties, Lake St. Clair Region, 1951 to 1961 and 1956 to 1961	134
Population of Incorporated Cities, Towns and Villages of 5,000 and over in 1961, 1901 to 1961	134
Population of Incorporated Cities, Towns and Villages, Lake St. Clair Region, Census Years 1951, 1956 and 1961	135
Population of Windsor Metropolitan Area, Sarnia Urban Area and Component Parts, Lake St. Clair Region, 1951, 1956 and 1961	137
Rural-Urban Distribution of Population, Counties, Lake St. Clair Region, June 1, 1951, 1956 and 1961	138
Detailed Rural-Urban Distribution of Population, Counties, Lake St. Clair Region, June 1, 1961	139
Population by Sex, Counties, Lake St. Clair Region, June 1, 1951, 1956 and 1961	139
Population by Age Groups, Counties, Lake St. Clair Region, June 1, 1961	140
Population by Marital Status, Counties, Lake St. Clair Region, June 1, 1961	141
Births, Marriages and Deaths, Counties, Lake St. Clair Region, Selected Years 1951 to 1963	142
Population by Birthplace and Period of Immigration, Counties, Lake St. Clair Region, 1961	144
Population by Specified Ethnic Groups, Counties, Lake St. Clair Region, 1961	144
	129

Population Projections, Lake St. Clair Region, 1966 to 1986, Based on the 1961 Census Population	146
Population by Official Language, Counties, Lake St. Clair Region, June 1, 1961	147
Labour Force, Earnings and Income:	
Labour Force, as a Per Cent of Population 15 Years and Over, Counties, Lake St. Clair Region, 1961	148
Labour Force, as a Per Cent of Population 14 Years and Over, Counties, Lake St. Clair Region, 1941 and 1951	149
Industry Divisions and Major Groups of the Labour Force by Sex, Counties, Lake St. Clair Region, 1961	150
Participation Rates and Labour Force by Age Group and Sex, Lake St. Clair Region, 1961 and 1976 (Projected)	151
Industry Divisions and Major Groups of the Labour Force by Sex, Percentage Distribution, Counties, Lake St. Clair Region, 1961.....	152
Occupation Divisions of the Labour Force by Sex, Counties, Lake St. Clair Region, 1961	154
Occupation Divisions of the Labour Force by Sex, Percentage Distribution, Counties, Lake St. Clair Region, 1961	156
Labour Force by Industry and Sex, Selected Centres, Lake St. Clair Region, 1961	158
Index Numbers of Employment, All Industries, Sarnia and Windsor Urban Areas, 1954 to 1965	160
Average Weekly Wages and Salaries, All Industries, Sarnia and Windsor Urban Areas, 1954 to 1965	161
Index Numbers of Employment in Manufacturing, Lake St. Clair Region, 1949 to 1965	162
Average Weekly Wages and Salaries in Manufacturing, Lake St. Clair Region, 1949 to 1965	163
Wage and Salary Earners, Grouped by Earnings During the 12 Months Prior to June 1, 1961, Counties, Lake St. Clair Region	164
Labour Income of the Lake St. Clair Region, Counties, 1957 to 1964.....	165
Distribution of Labour Income, Counties, Lake St. Clair Region, 1957 to 1964	165
Labour Income Per Capita of Labour Income Recipients, Counties, Lake St. Clair Region, 1957 to 1964	166
Income Distribution, Counties, Lake St. Clair Region, 1960 to 1963.....	167
Income Distribution, Counties, Lake St. Clair Region, Percentage Distribution, 1960 to 1963	168

Agriculture:

Monthly and Annual Average Weather Data, Experimental Farm, Harrow, Essex County, 1918-1954	169
Number and Acreage of Farms, Counties, Lake St. Clair Region, 1951, 1956, 1961 and 1966	170
Condition of Farm Land, Counties, Lake St. Clair Region, 1951, 1961 and 1966	171
Commercial Farms, Counties, Lake St. Clair Region, 1961 and 1966	172
Value of Agricultural Products Sold, Counties, Lake St. Clair Region, 1951 and 1961	172
Estimate of Production Costs and Returns of Selected Crops, Ontario	173
Acreage and Farm Value of Total Field Crops, Counties, Lake St. Clair Region, 1951, 1961, 1965 and 1966	174
Acreage and Farm Value of Sugar Beets, Counties, Lake St. Clair Region, 1953 to 1966	175
Acreage and Farm Value of Selected Field Crops, Counties, Lake St. Clair Region, 1951, 1956, 1961, 1965 and 1966	176
Acreage and Farm Value of Canning Crops, Counties, Lake St. Clair Region, 1966	178
Number of Dairy Cows and Beef Cattle, Counties, Lake St. Clair Region, 1951, 1956, 1961 and 1965	179
Number and Farm Value of Livestock, Counties, Lake St. Clair Region, June 1st, 1951, 1956, 1961, 1965 and 1966	180
Number of Cattle Marketed, Counties, Lake St. Clair Region, 1951, 1961 and 1966	182
Number and Farm Value of Poultry, Counties, Lake St. Clair Region, June 1st, 1951, 1956, 1961, 1965 and 1966	183
Capital Value per Acre of Farms, Counties, Lake St. Clair Region, 1951 and 1961	184
Major Aspects of Farm Mechanization, Counties, Lake St. Clair Region, 1961 and 1966	185

Mining:

Mineral Production, Lake St. Clair Region, 1961 to 1965.....	186
--	-----

Energy:

Electric Energy Consumed By and Revenue Received From Ultimate Customers, in the Lake St. Clair Region, Served Directly or Indirectly by the Hydro-Electric Power Commission of Ontario, 1951, 1961 to 1966.....	188
--	-----

Manufacturing:

Manufacturing Statistics, Counties, Lake St. Clair Region, 1957 to 1962....	190
---	-----

Principal Statistics of Manufacturing, by Industrial Groups, Lake St. Clair Region, 1957 to 1962 Inclusive.....	191
Percentage Distribution of Total Selected Production Cost, Industrial Groups, Lake St. Clair Region, 1957 to 1962.....	197
Selected Production Cost as a Percentage of Selling Value, Lake St. Clair Region, Manufacturing Industrial Groups.....	199
Value of Factory Shipments, Lake St. Clair Region and Ontario, by Industrial Groups, 1957 to 1962 Inclusive	200
Labour Force of Industrial Groups by Sex, Lake St. Clair Region, 1957 to 1962	202

Transportation and Communications:

Cargoes Loaded and Unloaded at Specified Ports, Lake St. Clair Region, 1963 and 1964	206
Number and Registered Net Tonnage of Vessels, Arrivals and Departures, Ports, Lake St. Clair Region, 1962 to 1964	212
Percentage Distribution of Motor Vehicle Registrations, Counties, Lake St. Clair Region, 1965	216
Motor Vehicle Registrations, Counties, Lake St. Clair Region, 1960 to 1965	217
Road and Highway Mileages by Type of Road, Counties, Lake St. Clair Region, 1964	218
Number and Distribution of Telephones, Counties, Lake St. Clair Region, 1954 and 1965	219

Construction, Housing and Household Facilities:

Type of Occupied Dwellings, Counties, Lake St. Clair Region, 1951 and 1961	220
Number of Dwelling Units Started and Completed in New Residential Construction, Selected Centres, Lake St. Clair Region, 1954 and 1961-1965	221
Occupied Dwellings Showing Tenure and Specified Characteristics, Counties, Lake St. Clair Region, 1951 and 1961	222
Occupied Dwellings Showing Water and Sewage Utilities, Counties, Lake St. Clair Region, 1951 and 1961.....	223
Occupied Dwellings Showing Sanitation Facilities, Counties, Lake St. Clair Region, 1951 and 1961.....	224
Occupied Dwellings Showing Principal Heating Equipment and Fuel, Counties, Lake St. Clair Region, 1951 and 1961.....	225
Occupied Dwellings Showing Specified Living Conveniences, Counties, Lake St. Clair Region, 1951 and 1961.....	226

POPULATION OF THE LAKE ST. CLAIR REGION, COUNTIES, CENSUS YEARS 1901 TO 1961										
	1901	1911	1921	1931	1941	1951	1956	1961	1961 /1901	% Change 1961 /1951 1961 /1956
A-Border										
Essex.....	58,744	67,547	102,575	159,780	174,230	217,150	246,901	258,218	339.6	18.9
Kent.....	57,194	55,995	57,949	62,865	66,346	79,128	85,362	89,427	56.4	13.0
Sub-total	115,938	123,542	160,524	222,645	240,576	296,278	332,263	347,645	199.9	17.3
B-Lambton										
Lambton.....	56,642	51,332	52,879	54,674	56,925	74,960	89,939	102,131	80.3	36.2
Total, Region....	172,580	174,874	213,403	277,319	297,501	371,238	422,202	449,776	160.6	21.2
Total, Ontario.....	2,182,947	2,527,292	2,933,662	3,431,683	3,787,655	4,597,542	5,404,933	6,236,092	185.7	35.6
Region as										
% of Ontario....	7.9	6.9	7.3	8.1	7.9	8.1	7.8	7.2		
										15.4

POPULATION, VITAL STATISTICS AND IMMIGRATION

**FACTORS IN THE GROWTH OF POPULATION,
COUNTIES, LAKE ST. CLAIR REGION, 1951 TO 1961
AND 1956 TO 1961**

	Population 1951	Actual Increase — — — — —	Natural Increase 1951-1961	Net Migration — — — — —	Actual Increase — — %	Natural Increase 1951 Population	Net Mi- gration — —
A—Border							
Essex	217,150	41,068	44,350	-3,282	18.9	20.4	-1.5
Kent	79,128	10,299	14,885	-4,586	13.0	18.8	-5.8
Sub-total . .	296,278	51,367	59,235	-7,868	17.3	20.0	-2.7
B—Lambton							
Lambton . .	74,960	27,171	17,567	9,604	36.2	23.4	12.8
Total, Region	371,238	78,538	76,802	1,736	21.2	20.7	0.5

**POPULATION OF INCORPORATED CITIES, TOWNS AND
VILLAGES OF 5,000 AND OVER IN 1961, 1901-1961**

	1901	1911	1921	1931	1941	1951	1956	1961
Chatham	9,068	10,770	13,256	14,569	17,369	21,218	22,262	29,826
Leamington . . .	2,451	2,652	3,675	4,902	5,858	6,950	7,856	9,030
Riverside	—	—	1,155	4,432	4,878	9,214	13,335	18,089
Sarnia	8,176	9,947	14,877	18,191	18,734	34,697	43,447	50,976
Wallaceburg . . .	2,763	3,438	4,006	4,326	4,986	7,688	7,892	7,881
Windsor	12,153	17,829	38,591	63,108	105,311	120,049	121,980	114,367

POPULATION, VITAL STATISTICS AND IMMIGRATION

Population		Actual Increase	Natural Increase	Net Migration	Actual Increase	Natural Increase	Net Migration
1956	1961	-----	1956-1961	-----	---% 1956 Population---	---% 1956 Population---	---
246,901	258,218	11,317	22,491	-11,174	4.6	9.1	-4.5
85,362	89,427	4,065	7,491	-3,426	4.8	8.8	-4.0
332,263	347,645	15,382	29,982	-14,600	4.6	9.0	-4.4
89,939	102,131	12,192	9,399	2,793	13.6	10.5	3.1
422,202	449,776	27,574	39,381	-11,807	6.5	9.3	-2.8

POPULATION OF INCORPORATED CITIES, TOWNS AND VILLAGES, LAKE ST. CLAIR REGION, CENSUS YEARS 1951, 1956 AND 1961

				% Change	
	1951	1956	1961	1961 /51	1961 /56
A-Border					
Essex					
Cities					
Windsor.....	120,049	121,980	114,367	-4.7	-6.2
Towns					
Amherstburg...	3,638	4,099	4,452	22.4	8.6
Essex.....	2,741	3,348	3,428	25.1	2.4
Harrow.....	1,519	1,851	1,787	17.6	-3.5
Kingsville.....	2,631	2,884	3,041	15.6	5.4
Leamington....	6,950	7,856	9,030	29.9	14.9
Ojibway.....	21	—	6	-71.4	—
Riverside.....	9,214	13,335	18,089	96.3	35.7
Tecumseh.....	3,543	4,209	4,476	26.3	6.3
Villages					
Belle River.....	1,431	1,814	1,854	29.6	2.2
St. Clair Beach.	474	834	1,460	208.0	75.1

(cont'd next page)

POPULATION, VITAL STATISTICS AND IMMIGRATION

POPULATION OF INCORPORATED CITIES,
TOWNS AND VILLAGES, LAKE ST. CLAIR REGION,
CENSUS YEARS 1951, 1956 AND 1961 (CONT'D)

				% Change	
	1951	1956	1961	1961 /51	1961 /56
Kent					
Cities					
Chatham	21,218	22,262	29,826	40.6	34.0
Towns					
Blenheim	2,459	2,844	3,151	28.1	10.8
Bothwell	725	765	819	13.0	7.1
Dresden	2,052	2,260	2,346	14.3	3.8
Ridgetown	2,365	2,483	2,603	10.1	4.8
Tilbury	2,682	3,138	3,030	13.0	−3.4
Wallaceburg . . .	7,688	7,892	7,881	2.5	−0.1
Villages					
Erieau	434	475	497	14.5	4.6
Erie Beach	59	95	137	132.2	44.2
Highgate	349	378	374	7.2	−1.1
Thamesville	968	1,074	1,054	8.9	−1.9
Wheatley	1,021	1,196	1,362	33.4	13.9
B-Lambton					
Lambton					
Cities					
Sarnia	34,697	43,447	50,976	46.9	17.3
Towns					
Forest	1,790	2,035	2,188	22.2	7.5
Petrolia	3,105	3,426	3,708	19.4	8.2
Villages					
Alvinston	693	652	660	−4.8	1.2
Arkona	370	447	504	36.2	12.8
Courtright	531	581	532	0.2	−8.4
Grand Bend	—	953	928	—	−2.6
Oil Springs	433	481	484	11.8	0.6
Point Edward . .	1,838	2,558	2,744	49.3	7.3
Thedford	616	717	759	23.2	5.9
Watford	1,201	1,217	1,293	7.7	6.2
Wyoming	694	792	880	26.8	11.1

POPULATION, VITAL STATISTICS AND IMMIGRATION

POPULATION OF WINDSOR METROPOLITAN AREA,
SARNIA URBAN AREA AND COMPONENT PARTS,
LAKE ST. CLAIR REGION, 1951, 1956 AND 1961

	1961	1956	1951
Windsor Metropolitan Area	193,365	185,865	163,618
Windsor City.....	114,367	121,980	120,049
Ojibway.....	6	—	21
Riverside.....	18,089	13,335	9,214
St. Clair Beach.....	1,460	834	474
Sandwich East.....	21,819	19,868	14,966
Sandwich South.....	4,535	3,724	3,091
Sandwich West.....	28,613	21,915	12,260
Tecumseh.....	4,476	4,209	3,543
Sarnia Urban Area	61,293	51,473	40,366
Sarnia City.....	50,976	43,447	34,697
Moore.....	2,191	1,717	1,072
Point Edward.....	2,744	2,558	1,838
Sarnia Twp.....	5,001	3,402	2,404
Indian Reserves.....	381	349	355

RURAL-URBAN DISTRIBUTION OF POPULATION⁽¹⁾,
COUNTIES, LAKE ST. CLAIR REGION, JUNE 1, 1951, 1956, AND 1961

	Year	Total Population	Rural	Urban	Per Cent Distribution		% Change 1961 /1951	
					Rural	Urban	Rural	Urban
A-Border								
Essex.....	1951	217,150	33,366	183,784	15.4	84.6		
	1956	246,901	37,703	209,198	15.3	84.7	+15.5	+19.5
	1961	258,218	38,542	219,676	14.9	85.1		
Kent.....	1951	79,128	40,899	38,229	51.7	48.3		
	1956	85,362	43,694	41,668	51.2	48.8	-5.6	+32.9
	1961	89,427	38,611	50,816	43.2	56.8		
Sub-total.....	1951	296,278	74,265	222,013	25.1	74.9		
	1956	332,263	81,397	250,866	24.5	75.5	+3.9	+21.8
	1961	347,645	77,153	270,492	22.2	77.8		
B-Lambton								
Lambton.....	1951	74,960	27,561	47,399	36.8	63.2		
	1956	89,939	30,405	59,534	33.8	66.2	+22.1	+44.5
	1961	102,131	33,649	68,482	32.9	67.1		
Total, Region.....	1951	371,238	101,826	269,412	27.4	72.6	+8.8	+25.8
	1956	422,202	111,802	310,400	26.5	73.5		
	1961	449,776	110,802	338,974	24.6	75.4		
Total, Ontario.....	1951	4,597,542	1,221,717	3,375,825	26.6	73.4		
	1956	5,404,933	1,302,014	4,102,919	24.1	75.9	+6.0	+46.4
	1961	6,236,092	1,294,864	4,941,228	20.8	79.2		

(1) 1956 Definitions. To facilitate historical comparison the 1956 Census definitions of rural and urban were used.
Note: The definition of rural and urban for the 1961 Census was substantially the same as that used in 1956. Briefly, the 1961 definition specified that all cities, towns and villages of 1,000 and over, whether incorporated or not, were classed as urban, as well as the urbanized fringes of (a) cities classed as metropolitan areas, (b) those classed as other major urban areas, and (c) certain smaller cities, if the city together with its urbanized fringe was 10,000 population or over. The remainder of the population was classed as rural. The main differences from 1956 result from the exclusion of any non-urbanized fringes within metropolitan areas, and the inclusion of urbanized fringes adjoining those smaller cities covered in (c) above.
The classification of "rural farm" comprises all persons living in dwellings situated on farms in rural localities. A farm for 1961 is defined as a holding of one or more acres with sales of agricultural products of \$50 or more. This differs from 1956 when a farm was defined as a holding of: (1) three acres or more in size, or (2) from one to three acres with agricultural production in 1955 valued at \$250 or more. A sizeable part of the decrease shown for the rural population in 1961 is due to this change in farm definition.

DETAILED RURAL-URBAN DISTRIBUTION OF POPULATION⁽¹⁾,
COUNTIES, LAKE ST. CLAIR REGION, JUNE 1, 1961

	Rural				Urban						
	Total			Total	100,000 and over						
	Population	Total	Farm ⁽²⁾		Non-farm	30,000 to 99,999	10,000 to 29,999	5,000 to 9,999	2,500 to 4,999	1,000 to 2,499	
A-Border											
Essex.....	258,218	48,048	18,795	29,253	210,170	183,859	—	—	9,030	12,365	4,916
Kent.....	89,427	38,611	18,260	20,351	50,816	—	—	29,826	7,881	7,340	5,769
Sub-total	347,645	86,659	37,055	49,604	260,986	183,859	—	29,826	16,911	19,705	10,685
B-Lambton											
Lambton.....	102,131	33,649	16,738	16,911	68,482	—	61,293	—	—	3,708	3,481
Total, Region....	449,776	120,308	53,793	66,515	329,468	183,859	61,293	29,826	16,911	23,413	14,166

(1) 1961 Definition.

(2) For change in farm population, see Note following table on "Rural-Urban Distribution of Population, Counties and Districts, Lake St. Clair Region, 1951, 1956 and 1961".

POPULATION BY SEX, COUNTIES,
LAKE ST. CLAIR REGION, JUNE 1, 1951, 1956 AND 1961

	Total Population			Male						Female			Males to 100 Females			
	1951	1956	1961	1951		1956		1961		1951		1956		1951	1956	1961
				No.	%	No.	%	No.	%	No.	%	No.	%			
A—Border																
Essex.....	217,150	246,901	258,218	110,405	50.8	124,762	50.5	129,079	50.0	106,745	49.2	122,139	49.5	129,139	50.0	100
Kent.....	79,128	85,362	89,427	40,133	50.7	42,963	50.3	44,942	50.3	38,995	49.3	42,399	49.7	44,485	49.7	101
Sub-total....	296,278	332,263	347,645	150,538	50.8	167,725	50.5	174,021	50.1	145,740	49.2	164,538	49.5	173,624	49.9	100
B—Lambton																
Lambton.....	74,960	89,939	102,131	38,261	51.0	45,442	50.5	51,845	50.8	36,699	49.0	44,497	49.5	50,286	49.2	103
Total, Region ..	371,238	422,202	449,776	188,799	50.9	213,167	50.5	225,866	50.2	182,439	49.1	209,035	49.5	223,910	49.8	101
Total, Ontario...	4,597,542	5,404,933	6,236,092	2,314,170	50.3	2,721,519	50.4	3,134,528	50.3	2,283,372	49.7	2,683,414	49.6	3,101,564	49.7	101

POPULATION, VITAL STATISTICS AND IMMIGRATION

POPULATION BY AGE GROUPS						
COUNTIES, LAKE ST. CLAIR REGION, JUNE 1, 1961						
		Total	0-4	5-9	10-14	15-19
A-Border						
Essex	No.	258,218	30,826	29,117	25,671	18,659
	%	(100.0)	(11.9)	(11.3)	(9.9)	(7.2)
Kent.	No.	89,427	10,769	10,007	8,947	7,018
	%	(100.0)	(12.0)	(11.2)	(10.0)	(7.9)
Sub-total.	No.	347,645	41,595	39,124	34,618	25,677
	%	(100.0)	(12.0)	(11.2)	(10.0)	(7.4)
B-Lambton						
Lambton.	No.	102,131	13,011	12,135	10,419	7,572
	%	(100.0)	(12.7)	(11.9)	(10.2)	(7.4)
Total, Region.	No.	449,776	54,606	51,259	45,037	33,249
	%	(100.0)	(12.1)	(11.4)	(10.0)	(7.4)
Total Ontario.	No.	6,236,092	740,193	674,519	593,037	436,883
	%	(100.0)	(11.9)	(10.8)	(9.5)	(7.0)

POPULATION, VITAL STATISTICS AND IMMIGRATION

20-24	25-34	35-44	45-54	55-64	65-69	70 +	Median Age
14,494 (5.6)	32,944 (12.8)	34,406 (13.3)	26,770 (10.4)	23,213 (9.0)	8,766 (3.4)	13,352 (5.2)	28
5,404 (6.0)	10,862 (12.2)	11,179 (12.5)	9,494 (10.6)	7,548 (8.4)	2,931 (3.3)	5,268 (5.9)	27
19,898 (5.7)	43,806 (12.6)	45,585 (13.1)	36,264 (10.4)	30,761 (8.8)	11,697 (3.4)	18,620 (5.4)	28
6,164 (6.0)	13,662 (13.4)	13,728 (13.5)	10,135 (9.9)	7,244 (7.1)	2,841 (2.8)	5,220 (5.1)	26
26,062 (5.8)	57,468 (12.8)	59,313 (13.2)	46,399 (10.3)	38,005 (8.5)	14,538 (3.2)	23,840 (5.3)	28
386,966 (6.2)	882,476 (14.2)	866,563 (13.9)	670,544 (10.7)	476,838 (7.6)	180,063 (2.9)	328,010 (5.3)	28

POPULATION BY MARITAL STATUS, COUNTIES, LAKE ST. CLAIR REGION, JUNE 1, 1961

		Total	Single	Married	Widowed	Divorced
A-Border						
Essex.....	No.	258,218	122,603	122,057	12,443	1,115
	%	(100.0)	(47.5)	(47.3)	(4.8)	(0.4)
Kent.....	No.	89,427	42,650	42,113	4,446	218
	%	(100.0)	(47.7)	(47.1)	(5.0)	(0.2)
Sub-total.....	No.	347,645	165,253	164,170	16,889	1,333
	%	(100.0)	(47.5)	(47.2)	(4.9)	(0.4)
B-Lambton						
Lambton.....	No.	102,131	49,904	47,551	4,423	253
	%	(100.0)	(48.9)	(46.6)	(4.3)	(0.2)
Total, Region.....	No.	449,776	215,157	211,721	21,312	1,586
	%	(100.0)	(47.8)	(47.1)	(4.7)	(0.4)

BIRTHS, MARRIAGES AND DEATHS, COUNTIES, LAKE ST. CLAIR REGION, SELECTED YEARS, 1951 TO 1963									
	Year	Births ⁽¹⁾			Marriages			Deaths	
		No.	Rate Per 1,000 Population	Rate Per 1,000 Population	No.	Rate Per 1,000 Population	No.	Rate Per 1,000 Population	
A-Border									
Essex.....	1951	5,887	27.1		2,282	10.5	1,865	8.6	
	1956	6,836	27.7		2,194	8.9	1,964	8.0	
	1960	6,327	24.4		1,821	7.0	2,154	8.3	
	1961	6,160	23.9		1,769	6.9	2,172	8.4	
	1962	6,038	23.5		1,678	6.5	2,257	8.8	
Kent.....	1963	5,937	23.1		1,789	7.0	2,326	9.1	
	1951	2,194	27.7		750	9.5	818	10.3	
	1956	2,312	27.1		760	8.9	845	9.9	
	1960	2,423	26.6		676	7.4	889	9.8	
	1961	2,388	26.7		672	7.5	765	8.6	
Sub-total	1962	2,329	25.5		697	7.6	886	9.7	
	1963	2,293	24.8		703	7.6	871	9.4	
	1951	8,081	27.3		3,032	10.2	2,683	9.1	
	1956	9,148	27.5		2,954	8.9	2,809	8.5	
	1960	8,750	24.9		2,497	7.1	3,043	8.7	
B-Lambton	1961	8,548	24.6		2,441	7.0	2,937	8.4	
	1962	8,367	24.1		2,375	6.8	3,143	9.0	
	1963	8,230	23.6		2,492	7.1	3,197	9.2	
	1951	2,008	26.8		610	8.1	712	9.5	
	1956	2,572	28.6		670	7.4	775	8.6	
Lambton	1960	2,658	26.6		656	6.6	832	8.3	
	1961	2,680	26.2		680	6.7	844	8.3	
	1962	2,501	24.4		696	6.8	846	8.2	
	1963	2,347	22.8		661	6.4	863	8.4	

Total, Region	1951	10,089	27.2	3,642	9.8	3,395	9.1
	1956	11,720	27.8	3,624	8.6	3,584	8.5
	1960	11,408	25.3	3,153	7.0	3,875	8.6
	1961	11,228	25.0	3,121	6.9	3,781	8.4
	1962	10,868	24.1	3,071	6.8	3,989	8.9
	1963	10,577	23.4	3,153	7.0	4,060	9.0
Total, Ontario	1951	114,827	25.0	45,198	9.8	43,981	9.6
	1956	143,516	26.6	46,282	8.6	47,231	8.7
	1960	159,245	26.2	45,855	7.5	51,484	8.5
	1961	157,663	25.3	44,434	7.1	50,997	8.2
	1962	156,053	24.6	44,454	7.0	52,156	8.2
	1963	155,089	24.1	45,306	7.0	53,617	8.3

(1) Live births only.
Note: For 1951 births, marriages and deaths are by place of residence. For 1956, 1960, 1961, 1962 and 1963, births are by place of residence of mothers, marriages by place of occurrence and deaths by place of residence.

POPULATION, VITAL STATISTICS AND IMMIGRATION

POPULATION BY BIRTHPLACE AND PERIOD OF IMMIGRATION, COUNTIES, LAKE ST. CLAIR REGION, 1961					
	Total	Country of Birth			
		Canada		Other	
		No.	%	No.	%
A—Border					
Essex	258,218	201,235	77.9	56,983	22.1
Kent	89,427	75,329	84.2	14,098	15.8
Sub-total	347,645	276,564	79.6	71,081	20.4
B—Lambton					
Lambton	102,131	86,542	84.7	15,589	15.3
Total Region	449,776	363,106	80.7	86,670	19.3
Total, Ontario	6,236,092	4,882,935	78.3	1,353,157	21.7
Region as % of Ontario	7.2	7.4		6.4	

POPULATION BY SPECIFIED ETHNIC GROUPS, COUNTIES, LAKE ST. CLAIR REGION, 1961					
Country	A—Border			B—Lambton	Total
	Essex	Kent	Sub-total	Lambton	Region
	No.				
British Isles.....	120,159	54,279	174,438	71,347	245,785
French.....	55,337	11,014	66,351	7,448	73,799
German.....	16,831	3,450	20,281	4,127	24,408
Netherlands.....	4,539	6,581	11,120	6,219	17,339
Italian.....	13,596	747	14,343	1,420	15,763
Polish.....	6,739	907	7,646	1,292	8,938
Ukrainian.....	6,423	823	7,246	875	8,121
Czech and Slovak.....	3,072	1,831	4,903	1,092	5,995
Hungarian.....	4,757	675	5,432	452	5,884
Scandinavian.....	1,637	533	2,170	929	3,099
Austrian.....	1,792	222	2,014	261	2,275
Russian.....	1,869	119	1,988	190	2,178
Jewish.....	1,426	111	1,537	113	1,650
Other European.....	11,830	4,968	16,798	2,071	18,869
Asiatic.....	2,610	341	2,951	170	3,121
Indian and Eskimo.....	252	412	664	2,193	2,857
Other and Not Stated..	5,349	2,414	7,763	1,932	9,695
Total.....	258,218	89,427	347,645	102,131	449,776

POPULATION, VITAL STATISTICS AND IMMIGRATION

Period of Immigration							
	Before 1921	1921-30	1931-40	1941-45	1946-50	1951-55	1956-61
----- No. of persons -----							
A—Border							
Essex.....	11,159	14,396	3,084	825	7,238	11,889	8,392
Kent.....	2,881	3,266	800	176	2,202	2,625	2,148
Sub-total.....	14,040	17,662	3,884	1,001	9,440	14,514	10,540
B—Lambton							
Lambton.....	2,521	2,143	766	257	2,659	4,250	2,993
Total Region...	16,561	19,805	4,650	1,258	12,099	18,764	13,533
Total, Ontario....	264,366	198,339	41,959	15,190	169,044	323,528	340,731
Region as %							
of Ontario.....	6.3	10.0	11.1	8.3	7.2	5.8	4.0

A—Border			B—Lambton	Total
Essex	Kent	Sub-total	Lambton	Region
----- % distribution -----				
46.5	60.7	50.2	69.9	54.6
21.4	12.3	19.1	7.3	16.4
6.5	3.9	5.8	4.0	5.4
1.8	7.4	3.2	6.1	3.9
5.3	0.8	4.1	1.4	3.5
2.6	1.0	2.2	1.3	2.0
2.5	0.9	2.1	0.9	1.8
1.2	2.0	1.4	1.1	1.3
1.8	0.8	1.6	0.4	1.3
0.6	0.6	0.6	0.9	0.7
0.7	0.2	0.6	0.2	0.5
0.7	0.1	0.6	0.2	0.5
0.6	0.1	0.4	0.1	0.4
4.6	5.6	4.8	2.0	4.2
1.0	0.4	0.9	0.2	0.7
0.1	0.5	0.2	2.1	0.6
2.1	2.7	2.2	1.9	2.2
100.0	100.0	100.0	100.0	100.0

POPULATION, VITAL STATISTICS AND IMMIGRATION

POPULATION PROJECTIONS, LAKE ST. CLAIR REGION,
1966 TO 1986, BASED ON 1961 CENSUS POPULATION

Assumption A: Net migration to Ontario 10,000 per annum Net Internal migration 2,000 per annum						
Age Group	Census 1961	— — — — — 1966	— — — — — 1971	— Projections — — — — — 1976	1981	1986
0- 4	54,606	56,100	65,200	79,700	93,900	106,200
5- 9	51,259	54,100	55,900	64,700	79,100	93,200
10-14	45,037	51,200	54,300	55,900	64,800	79,200
15-19	33,249	44,800	51,200	54,300	55,900	64,800
20-24	26,062	32,800	44,700	51,100	54,200	55,900
25-34	57,468	52,800	59,400	78,500	96,700	106,200
35-44	59,313	62,200	57,500	53,400	59,900	78,900
45-54	46,399	51,000	58,000	61,000	56,400	52,400
55-64	38,005	40,000	43,100	47,600	54,100	57,000
65-69	14,538	16,300	17,400	18,200	20,400	22,300
70 +	23,840	28,300	32,500	36,500	39,700	43,500
Total	449,776	489,600	539,200	600,900	675,100	759,600

POPULATION, VITAL STATISTICS AND IMMIGRATION

Assumption B: Net migration to Ontario 30,000 per annum				
Net Internal migration 6,000 per annum				
-----Projections-----				
1966	1971	1976	1981	1986
57,300	67,500	83,000	98,400	110,900
54,600	57,200	67,200	82,500	97,800
51,500	55,200	57,600	67,500	83,000
45,200	52,000	55,700	58,100	67,900
33,500	45,800	52,700	56,500	58,900
54,300	62,400	82,400	101,900	112,600
63,000	59,400	56,600	64,300	84,400
51,300	58,800	62,600	59,000	56,200
40,200	43,500	48,300	55,400	59,000
16,300	17,500	18,400	20,700	22,900
28,500	32,700	36,800	40,200	44,200
495,700	552,000	621,300	704,500	797,800

POPULATION BY OFFICIAL LANGUAGE,
COUNTIES, LAKE ST. CLAIR REGION, JUNE 1, 1961

			Total	English	French Only	English and French	Neither English nor French
A—Border							
Essex	No.		258,218	221,504	2,081	31,580	3,053
	%		(100.0)	(85.8)	(0.8)	(12.2)	(1.2)
Kent	No.		89,427	82,838	369	5,845	365
	%		(100.0)	(92.6)	(0.4)	(6.5)	(0.5)
Sub-total	No.		347,645	304,342	2,450	37,425	3,428
	%		(100.0)	(87.5)	(0.7)	(10.8)	(1.0)
B—Lambton							
Lambton	No.		102,131	96,255	371	4,943	562
	%		(100.0)	(94.2)	(0.4)	(4.8)	(0.6)
Total, Region.....	No.		449,776	400,597	2,821	42,368	3,990
	%		(100.0)	(89.1)	(0.6)	(9.4)	(0.9)
Total, Ontario.....	No.		6,236,092	5,548,766	95,236	493,270	98,820
	%		(100.0)	(89.0)	(1.5)	(7.9)	(1.6)
Region as % of Ontario....			7.2	7.2	3.0	8.6	4.0

LABOUR FORCE, EARNINGS AND INCOME

LABOUR FORCE, AS A PER CENT OF POPULATION 15 YEARS AND OVER, COUNTIES, LAKE ST. CLAIR REGION, 1961

	Total			Males			Females		
	Population 15 Years and Over	Labour Force		Total 15 Years and Over	Labour Force		Total 15 Years and Over	Labour Force	
		No.	% of Population		No.	% of Population		No.	% of Population
A—Border									
Essex.....	172,604	92,279	53.5	85,294	66,575	78.1	87,310	25,704	29.4
Kent.....	59,704	32,118	53.8	29,741	23,799	80.0	29,963	8,319	27.8
Sub-total.....	232,308	124,397	53.5	115,035	90,374	78.6	117,273	34,023	29.0
B—Lambton									
Lambton.....	66,566	36,608	55.0	33,673	27,530	81.8	32,893	9,078	27.6
Total, Region.....	298,874	161,005	53.9	148,708	117,904	79.3	150,166	43,101	28.7
Total, Ontario.....	4,228,343	2,393,015	56.6	2,106,048	1,700,567	80.7	2,122,295	692,448	32.6
Region as % of Ontario.....	7.1	6.7		7.1	6.9		7.1	6.2	

LABOUR FORCE, AS A PER CENT OF POPULATION 14 YEARS AND OVER,
COUNTIES, LAKE ST. CLAIR REGION, 1941 AND 1951

Total										Males				Females			
Year	Population 14 Years and Over	Labour Force		Total 14 Years and Over	Labour Force		Total 14 Years and Over	Labour Force		Total 14 Years and Over	Labour Force		Total 14 Years and Over	Labour Force			
		No.	% of Population		No.	% of Population		No.	% of Population		No.	% of Population					
A—Border																	
	Essex	1941	131,109	66,922	51.0	68,269	56,140	82.2	62,840	10,782	17.2						
		1951	158,693	87,664	55.2	80,734	69,518	86.1	77,959	18,146	23.3						
	Kent	1941	50,052	25,651	51.2	25,560	21,727	85.0	24,492	3,924	16.0						
		1951	57,021	30,046	52.7	28,849	24,451	84.8	28,172	5,595	19.9						
	Sub-total	1941	181,161	92,573	51.1	93,829	77,867	83.0	87,332	14,706	16.8						
		1951	215,714	117,710	54.6	109,583	93,969	85.8	106,131	23,741	22.4						
B—Lambton																	
	Lambton	1941	43,581	21,800	50.0	22,313	18,593	83.3	21,268	3,207	15.1						
		1951	54,086	28,367	52.4	27,646	23,252	84.1	26,440	5,115	19.3						
	Total, Region	1941	224,742	114,373	50.9	116,142	96,460	83.1	108,600	17,913	16.5						
		1951	269,800	146,077	54.1	137,229	117,221	85.4	132,571	28,856	21.8						
	Total, Ontario	1941	2,928,089	1,563,126	53.4	1,485,239	1,244,987	83.8	1,442,850	318,139	22.0						
		1951	3,418,502	1,887,551	55.2	1,711,373	1,441,444	84.2	1,707,129	446,107	26.1						
	Region as % of Ontario	1941	7.7	7.3		7.8	7.7		7.5	5.6							
		1951	7.9	7.7		8.0	8.1		7.8	6.5							

LABOUR FORCE, EARNINGS AND INCOME

**INDUSTRY DIVISIONS AND MAJOR GROUPS OF THE LABOUR
FORCE BY SEX, COUNTIES, LAKE ST. CLAIR REGION, 1961**

		Total, All Industries	Agri- culture	Forestry	Fishing and Trapping	Mines (including milling) and Quarries
A—Border						
Essex.....	Male	66,575	6,274	14	197	395
	Female	25,704	1,598	2	6	20
	Total	92,279	7,872	16	203	415
Kent.....	Male	23,799	6,328	33	133	138
	Female	8,319	780	—	1	9
	Total	32,118	7,108	33	134	147
Sub-total.....	Male	90,374	12,602	47	330	533
	Female	34,023	2,378	2	7	29
	Total	124,397	14,980	49	337	562
B—Lambton						
Lambton.....	Male	27,530	4,534	14	39	149
	Female	9,078	631	1	1	6
	Total	36,608	5,165	15	40	155
Total, Region.....	Male	117,904	17,136	61	369	682
	Female	43,101	3,009	3	8	35
	Total	161,005	20,145	64	377	717

LABOUR FORCE, EARNINGS AND INCOME

Manufac- turing	Construction	Transportation Communication and Other Utilities	Trade	Finance Insurance and Real Estate	Community, Business and Personal Service	Public Administration and Defence	Not Stated
25,999	4,983	5,728	9,554	1,489	7,441	2,974	1,527
4,397	187	941	4,438	1,676	11,344	726	369
30,396	5,170	6,669	13,992	3,165	18,785	3,700	1,896
5,907	1,831	2,135	3,627	424	2,029	777	437
1,166	41	426	1,468	333	3,723	238	134
7,073	1,872	2,561	5,095	757	5,752	1,015	571
31,906	6,814	7,863	13,181	1,913	9,470	3,751	1,964
5,563	228	1,367	5,906	2,009	15,067	964	503
37,469	7,042	9,230	19,087	3,922	24,537	4,715	2,467
9,241	3,055	2,357	3,182	528	2,116	1,735	580
1,224	92	375	1,620	413	4,290	292	133
10,465	3,147	2,732	4,802	941	6,406	2,027	713
41,147	9,869	10,220	16,363	2,441	11,586	5,486	2,544
6,787	320	1,742	7,526	2,422	19,357	1,256	636
47,934	10,189	11,962	23,889	4,863	30,943	6,742	3,180

PARTICIPATION RATES AND LABOUR FORCE BY AGE GROUP AND SEX, LAKE ST. CLAIR REGION, 1961 AND PROJECTED 1976

	1961			1976 (Assumption B)		
	Population	Labour	Participation	Population	Labour	Participation
	15 yrs. & over	Force	Rate %	15 yrs. & over 000's	Force 000's	Rate %
Male						
15-24.....	29,597	17,617	59.5	54.1	29.8	55
25-44.....	57,717	55,309	95.8	68.7	65.3	95
45-64.....	43,033	38,954	90.5	56.5	50.3	89
65 +.....	18,361	6,024	32.8	26.4	6.9	26
Total.....	148,708	117,904	79.3	205.7	152.3	74
Female						
15-24.....	29,714	11,011	37.1	54.3	19.0	35
25-44.....	59,064	18,398	31.2	70.3	23.9	34
45-64.....	41,371	12,294	29.7	54.4	18.5	34
65 +.....	20,017	1,398	7.0	28.8	2.0	7
Total.....	150,166	43,101	28.7	207.8	63.4	31
Males and Females						
15-24.....	59,311	28,628	48.3	108.4	48.8	45
25-44.....	116,781	73,707	63.1	139.0	89.2	64
45-64.....	84,404	51,248	60.7	110.9	68.8	62
65 +.....	38,378	7,422	19.3	55.2	8.9	16
Total.....	298,874	161,005	53.9	413.5	215.7	52

LABOUR FORCE, EARNINGS AND INCOME

INDUSTRY DIVISIONS AND MAJOR GROUPS OF THE LABOUR
FORCE BY SEX, PERCENTAGE DISTRIBUTION, COUNTIES,
LAKE ST. CLAIR REGION, 1961

		Total, All Industries	Agri- culture	Forestry	Fishing and Trapping	Mines (including milling) and Quarries
A—Border						
Essex.....	Male	100.0	9.4	0.0	0.3	0.6
	Female	100.0	6.2	0.0	0.0	0.0
	Total	100.0	8.5	0.0	0.2	0.5
Kent.....	Male	100.0	26.6	0.1	0.6	0.6
	Female	100.0	9.4	—	0.0	0.1
	Total	100.0	22.1	0.1	0.4	0.5
Sub-total.....	Male	100.0	13.9	0.1	0.4	0.6
	Female	100.0	7.0	0.0	0.0	0.1
	Total	100.0	12.0	0.0	0.3	0.5
B—Lambton						
Lambton.....	Male	100.0	16.5	0.0	0.1	0.5
	Female	100.0	7.0	0.0	0.0	0.1
	Total	100.0	14.1	0.0	0.1	0.4
Total, Region.....	Male	100.0	14.5	0.0	0.3	0.6
	Female	100.0	7.0	0.0	0.0	0.1
	Total	100.0	12.5	0.0	0.2	0.5

LABOUR FORCE, EARNINGS AND INCOME

Manufac- turing	Construction	Transportation, Communication and Other Utilities	Trade	Finance, Insurance and Real Estate	Community, Business and Personal Service	Public Administration and Defence	Not Stated
39.1	7.5	8.6	14.3	2.2	11.2	4.5	2.3
17.1	0.7	3.7	17.3	6.5	44.2	2.8	1.5
32.9	5.6	7.2	15.2	3.4	20.4	4.0	2.1
24.8	7.7	9.0	15.2	1.8	8.5	3.3	1.8
14.0	0.5	5.1	17.6	4.0	44.8	2.9	1.6
22.0	5.8	8.0	15.9	3.2	17.9	2.3	1.8
35.3	7.5	8.7	14.6	2.1	10.5	4.1	2.2
16.3	0.7	4.0	17.4	5.9	44.3	2.8	1.5
30.1	5.7	7.4	15.3	3.2	19.7	3.8	2.0
33.6	11.1	8.6	11.6	1.9	7.7	6.3	2.1
13.5	1.0	4.1	17.8	4.5	47.3	3.2	1.5
28.6	8.6	7.5	13.1	2.6	17.5	5.5	2.0
34.9	8.4	8.7	13.9	2.1	9.8	4.7	2.1
15.8	0.7	4.0	17.5	5.6	44.9	2.9	1.5
29.8	6.3	7.4	14.9	3.0	19.2	4.2	2.0

LABOUR FORCE, EARNINGS AND INCOME

**OCCUPATION DIVISIONS OF THE LABOUR FORCE⁽¹⁾ BY SEX,
COUNTIES, LAKE ST. CLAIR REGION, 1961**

		Total, All Occupations ⁽²⁾	Mana- gerial	Profes- sional and Technical	Clerical	Sales	Service and Recreation
A—Border							
Essex.....	Male	66,575	7,000	4,863	5,151	3,691	4,928
	Female	25,704	922	3,847	7,542	2,443	5,871
	Total	92,279	7,922	8,710	12,693	6,134	10,799
Kent.....	Male	23,799	2,397	1,151	1,219	1,278	1,211
	Female	8,319	245	1,329	2,006	846	2,013
	Total	32,118	2,642	2,480	3,225	2,124	3,224
Sub-total.....	Male	90,374	9,397	6,014	6,370	4,969	6,139
	Female	34,023	1,167	5,176	9,548	3,289	7,884
	Total	124,397	10,564	11,190	15,918	8,258	14,023
B—Lambton							
Lambton.....	Male	27,530	2,461	2,718	1,146	1,182	2,149
	Female	9,078	294	1,501	2,398	987	2,378
	Total	36,608	2,755	4,219	3,544	2,169	4,527
Total, Region.....	Male	117,904	11,858	8,732	7,516	6,151	8,288
	Female	43,101	1,461	6,677	11,946	4,276	10,262
	Total	161,005	13,319	15,409	19,462	10,427	18,550

(1) Excludes a few persons seeking work who had never been employed.

(2) Includes persons not reporting occupation.

LABOUR FORCE, EARNINGS AND INCOME

Transport and Communi- cation	Total	Farmers and Farm Workers Farmers and Stockraisers	Loggers, Fishermen, Trappers and Hunters	Miners, Quarrymen and Related Workers	Craftsmen, Production Process and Related Workers	Labourers	Occu- pation Not Stated
5,237	6,465	3,779	196	136	23,905	3,349	1,654
497	1,571	85	3	—	2,360	279	369
5,734	8,036	3,864	199	136	26,265	3,628	2,023
1,628	6,374	4,234	170	79	6,667	1,172	453
175	747	61	2	—	709	108	139
1,803	7,121	4,295	172	79	7,376	1,280	592
6,865	12,839	8,013	366	215	30,572	4,521	2,107
672	2,318	146	5	—	3,069	387	508
7,537	15,157	8,159	371	215	33,641	4,908	2,615
1,919	4,572	3,288	48	96	8,997	1,646	596
221	587	64	1	—	439	132	140
2,140	5,159	3,352	49	96	9,436	1,778	736
8,784	17,411	11,301	414	311	39,569	6,167	2,703
893	2,905	210	6	—	3,508	519	648
9,677	20,316	11,511	420	311	43,077	6,686	3,351

LABOUR FORCE, EARNINGS AND INCOME

OCCUPATION DIVISIONS OF THE LABOUR FORCE BY SEX, PERCENTAGE DISTRIBUTION, COUNTIES, LAKE ST. CLAIR REGION, 1961							
		Total, All Occupations	Mana- gerial	Profes- sional and Technical	Clerical	Sales	Service and Recreation
A—Border							
Essex.....	Male	100.0	10.5	7.3	7.7	5.6	7.4
	Female	100.0	3.6	15.0	29.4	9.5	22.8
	Total	100.0	8.6	9.4	13.8	6.6	11.7
Kent.....	Male	100.0	10.1	4.8	5.1	5.4	5.1
	Female	100.0	2.9	16.0	24.1	10.2	24.2
	Total	100.0	8.2	7.7	10.0	6.6	10.0
Sub-total.....	Male	100.0	10.4	6.7	7.1	5.5	6.8
	Female	100.0	3.4	15.2	28.1	9.7	23.2
	Total	100.0	8.5	9.0	12.8	6.6	11.3
B—Lambton							
Lambton.....	Male	100.0	8.9	9.9	4.1	4.3	7.8
	Female	100.0	3.2	16.5	26.4	10.9	26.2
	Total	100.0	7.5	11.5	9.7	5.9	12.4
Total, Region.....	Male	100.0	10.1	7.4	6.4	5.2	7.0
	Female	100.0	3.4	15.5	27.7	9.9	23.8
	Total	100.0	8.3	9.6	12.1	6.5	11.5

LABOUR FORCE, EARNINGS AND INCOME

Transport and Communi- cation	Farmers and Farm Workers		Loggers, Fishermen, Trappers and Hunters	Miners, Quarrymen and Related Workers	Craftsmen, Production Process and Related Workers	Labourers	Occu- pation Not Stated
	Total	Farmers and Stockraisers					
7.9	9.7	5.7	0.3	0.2	35.9	5.0	2.5
1.9	6.1	0.3	0.0	—	9.2	1.1	1.4
6.2	8.7	4.2	0.2	0.2	28.5	3.9	2.2
6.9	26.8	17.8	0.7	0.3	28.0	4.9	1.9
2.1	9.0	0.7	0.0	—	8.5	1.3	1.7
5.6	22.2	13.4	0.5	0.3	23.0	4.0	1.9
7.6	14.2	8.9	0.4	0.2	33.8	5.0	2.3
2.0	6.8	0.4	0.0	—	9.0	1.1	1.5
6.1	12.2	6.6	0.3	0.2	27.0	3.9	2.1
7.0	16.6	11.9	0.2	0.3	32.7	6.0	2.2
2.4	6.5	0.7	0.0	—	4.8	1.5	1.6
5.8	14.1	9.2	0.1	0.3	25.8	4.9	2.0
7.4	14.8	9.6	0.3	0.3	33.6	5.2	2.3
2.1	6.8	0.5	0.0	—	8.1	1.2	1.5
6.0	12.6	7.1	0.3	0.2	26.7	4.1	2.1

LABOUR FORCE⁽¹⁾ BY INDUSTRY AND SEX,
SELECTED CENTRES, LAKE ST. CLAIR REGION, 1961

	Windsor						Sarnia						Chatham					
	Metropolitan Area			City			Male			Female			Male			Female		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
All Industries.....	49,166	19,493	68,659	29,247	13,140	42,387	13,349	5,165	18,514	7,698	3,578	11,276						
Agriculture.....	803	102	905	149	24	173	51	7	58	166	36	202						
Forestry.....	5	—	5	3	—	3	3	—	3	3	—	3						
Fishing and Trapping.....	11	1	12	4	—	4	1	—	1	1	—	1						
Mines ⁽²⁾ , Quarries, Oil Wells....	289	14	303	169	13	182	50	2	52	39	2	41						
Manufacturing Industries.....	21,173	3,429	24,602	12,199	2,353	14,552	5,936	731	6,667	2,489	416	2,905						
Foods and Beverages.....	2,519	848	3,367	1,435	604	2,039	190	35	225	692	159	851						
Tobacco Products.....	4	2	6	2	2	4	—	—	—	72	36	108						
Rubber.....	30	17	47	17	6	23	3	—	3	2	—	2						
Leather.....	7	3	10	3	1	4	—	1	1	2	—	2						
Textile.....	54	81	135	30	53	83	4	2	6	18	18	36						
Knitting Mills.....	4	1	5	3	1	4	—	—	—	1	—	1						
Clothing.....	107	225	332	80	183	263	7	4	11	9	23	32						
Wood.....	186	28	214	110	15	125	8	2	10	12	3	15						
Furniture and Fixtures.....	127	27	154	81	17	98	20	3	23	4	—	4						
Paper and Allied Industries..	59	21	80	34	10	44	2	—	2	4	1	5						
Print., Publ. & Allied Ind.....	780	214	994	449	159	608	142	47	189	120	41	161						
Primary Metals.....	430	28	458	293	23	316	189	4	193	61	4	65						
Metal Fabricating ⁽³⁾	2,966	254	3,220	1,819	170	1,989	327	50	377	204	20	224						
Machinery ⁽⁴⁾	632	159	791	356	113	469	15	2	17	128	13	141						
Transportation Equipment... .	11,768	1,068	12,836	6,705	695	7,400	223	120	343	925	64	989						
Electrical Products.....	152	32	184	82	23	105	8	5	13	10	2	12						
Non-Metallic Mineral Products	280	23	303	164	13	177	341	21	362	69	3	72						
Petroleum and Coal Products.	26	—	26	14	—	14	1,746	124	1,870	9	—	9						

Chem. & Chem. Prods.....	539	259	798	271	170	441	2,685	306	2,991	97	20	117
Miscellaneous Manufacturing.	503	139	642	251	95	346	26	5	31	50	9	59
Construction Industry.....	3,891	156	4,047	2,472	100	2,572	1,701	52	1,753	668	20	688
Transportation, Communication and Other Utilities.....	4,589	756	5,345	2,690	491	3,181	1,385	191	1,576	1,063	214	1,277
Trade.....	7,376	3,458	10,834	4,321	2,300	6,621	1,715	1,009	2,724	1,563	689	2,252
Wholesale Trade.....	2,024	477	2,501	1,073	320	1,393	383	60	443	504	90	594
Retail Trade.....	5,352	2,981	8,333	3,248	1,980	5,228	1,332	949	2,281	1,059	599	1,658
Finance, Insurance and Real Estate	1,242	1,448	2,690	684	912	1,596	344	236	580	234	155	389
Community, Business and Personal Service Industries.....	6,139	9,212	15,351	4,179	6,316	10,495	1,279	2,652	3,931	884	1,861	2,745
Public Administration and Defence	2,359	616	2,975	1,485	421	1,906	585	198	783	403	135	538
Industry Unspecified or Undefined	1,289	301	1,590	892	210	1,102	299	87	386	185	50	235

(1) Excludes a few persons seeking work who have never been employed.

(2) Includes milling.

(3) Excludes machinery and transportation equipment industries.

(4) Excludes electrical machinery industries.

Note: 1961 Labour Force, 15 years of age and over.

INDEX NUMBERS OF EMPLOYMENT, ALL INDUSTRIES, SARNIA AND WINDSOR URBAN AREAS, 1954 TO 1965													
	Average	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
-----1949 = 100-----													
Sarnia													
1954.....	117.4	116.4	114.6	115.8	122.3	122.4	123.0	123.7	116.3	114.2	114.5	114.5	111.5
1955.....	121.4	110.7	113.1	112.8	118.4	122.5	123.1	125.1	126.1	126.8	127.5	126.0	124.1
1956.....	134.7	123.0	124.6	128.4	134.2	139.3	139.6	142.7	137.7	140.5	139.8	139.4	127.1
1957.....	139.2	129.3	130.0	137.3	144.9	138.7	144.1	144.5	145.5	143.4	139.2	139.1	134.0
1958.....	129.9	131.7	132.7	134.3	135.7	134.5	134.7	130.5	130.1	120.6	124.8	124.9	124.0
1959.....	119.5	121.2	121.1	102.2	107.3	107.4	114.1	127.9	128.2	126.8	128.3	126.0	123.2
1960.....	124.7	120.7	120.5	120.5	125.9	126.1	128.9	128.1	129.4	126.9	125.1	122.9	121.9
1961.....	126.5	119.1	118.2	121.1	123.0	126.2	128.6	135.2	134.9	131.8	129.0	127.0	124.5
1962.....	128.9	122.9	124.5	126.4	130.3	134.9	132.1	136.6	129.5	127.5	129.5	125.3	126.9
1963.....	133.3	125.7	125.2	127.5	130.4	136.2	137.7	135.8	139.3	135.0	137.2	137.1	132.6
1964.....	135.7	131.6	128.7	131.4	132.1	136.4	138.0	137.5	135.1	138.2	140.8	142.4	136.0
1965.....	141.8	134.7	133.7	137.3	135.7	138.6	144.4	143.4	146.4	146.2	146.4	149.7	145.4
Windsor													
1954.....	91.5	106.8	106.3	104.2	101.4	96.9	97.1	89.5	80.9	83.0	74.6	77.4	79.6
1955.....	103.4	81.2	100.4	103.7	105.5	107.4	110.5	106.4	92.5	105.6	109.7	110.2	108.1
1956.....	104.9	105.6	107.9	109.2	109.9	106.7	107.9	107.7	87.1	96.2	105.9	107.4	107.2
1957.....	95.9	105.8	103.1	101.9	100.7	102.4	98.2	97.0	85.1	87.2	91.3	92.3	86.1
1958.....	78.6	74.2	80.9	81.2	80.3	80.7	82.1	78.0	67.2	80.6	78.2	81.3	79.1
1959.....	79.3	72.6	78.4	79.1	80.7	82.1	84.6	78.9	74.5	80.9	82.0	78.1	79.2
1960.....	76.2	79.1	78.9	78.2	77.9	79.1	79.4	65.5	75.3	76.4	75.4	74.5	74.3
1961.....	72.8	71.6	72.3	72.6	72.7	74.4	74.6	68.1	73.4	74.1	73.5	74.0	72.9
1962.....	72.1	71.0	64.0	64.0	73.1	74.4	74.1	70.2	75.0	75.1	74.7	75.4	73.9
1963.....	77.3	73.2	73.2	73.9	76.0	77.7	79.4	65.4	79.8	81.9	82.0	82.8	81.8
1964.....	86.1	81.8	81.7	81.9	83.7	85.4	86.8	76.2	89.1	91.2	91.9	92.8	91.2
1965.....	97.6	91.7	75.3	91.8	98.2	99.3	101.7	92.6	100.1	103.6	104.6	106.3	105.7

AVERAGE WEEKLY WAGES AND SALARIES, ALL INDUSTRIES,
SARNIA AND WINDSOR URBAN AREAS, 1954 TO 1965

Average	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
-----Dollars-----												
Sarnia												
1954.....	73.41	71.83	71.88	72.15	74.45	71.63	75.67	73.49	73.17	74.16	74.44	72.83
1955.....	74.66	73.11	73.86	73.98	74.10	73.98	75.97	74.14	75.51	76.36	75.08	72.25
1956.....	80.08	74.73	78.07	77.22	79.01	80.80	82.00	82.69	82.21	80.75	80.96	77.94
1957.....	85.72	81.08	79.83	84.22	84.77	84.75	87.67	87.67	90.11	86.06	89.57	85.25
1958.....	91.15	89.75	88.86	91.50	91.65	93.13	92.13	94.70	89.67	90.67	91.80	89.51
1959.....	93.99	94.56	93.25	93.29	94.91	95.63	90.49	92.60	94.31	95.78	96.00	92.98
1960.....	98.05	94.64	95.67	97.20	101.79	95.91	97.83	98.05	99.61	100.31	99.37	98.37
1961.....	101.28	99.95	101.24	102.87	100.26	101.49	101.23	101.81	101.89	101.74	101.54	100.37
1962.....	104.28	103.84	103.93	103.46	104.64	104.32	103.95	103.83	104.35	105.23	106.26	102.62
1963.....	107.72	107.06	106.21	106.31	108.95	107.94	110.54	106.73	108.28	108.41	109.15	103.84
1964.....	111.09	109.58	108.49	108.91	110.53	110.00	108.79	114.38	110.71	116.70	114.39	109.92
1965.....	115.90	113.65	110.17	115.59	112.93	111.79	117.96	118.66	122.97	116.94	117.33	116.57
Windsor												
1954.....	68.26	68.29	68.38	68.29	68.93	65.70	67.78	67.63	68.16	69.56	69.55	69.15
1955.....	71.23	70.27	72.41	74.11	78.20	75.68	67.11	72.26	73.10	70.07	72.01	61.54
1956.....	71.33	72.34	72.39	72.68	72.34	65.96	71.92	71.53	73.55	69.58	74.67	68.02
1957.....	73.58	73.53	72.57	74.22	73.84	70.26	75.10	74.38	75.03	76.31	75.76	67.82
1958.....	77.04	74.03	73.87	77.43	78.22	78.98	77.96	77.48	76.69	78.58	79.84	73.37
1959.....	83.30	80.24	82.77	82.35	82.95	84.89	84.91	83.40	87.97	86.65	80.01	79.58
1960.....	84.98	82.77	85.06	86.23	86.74	87.39	86.48	84.00	84.42	85.04	84.17	83.51
1961.....	87.29	83.87	86.09	87.32	87.17	88.16	89.02	86.95	88.58	88.25	88.27	87.29
1962.....	90.44	88.75	88.03	89.16	90.03	92.24	92.12	90.09	89.95	92.87	95.18	87.39
1963.....	94.98	91.06	90.54	93.81	96.52	96.36	93.46	92.77	94.79	98.97	101.73	97.61
1964.....	100.97	98.32	96.40	96.99	101.10	103.11	101.10	104.45	107.97	107.41	99.14	93.40
1965.....	107.49	92.25	92.97	114.76	113.10	109.62	111.76	105.58	114.09	111.09	111.37	109.49

LABOUR FORCE, EARNINGS AND INCOME

**INDEX NUMBERS OF EMPLOYMENT IN MANUFACTURING,
LAKE ST. CLAIR REGION, 1949 TO 1965**

Year	Average	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1949.....							94.8						
1950.....							103.3						
1951.....							111.7						
1952.....							102.3						
1953.....							n.a.						
1954.....							n.a.						81.7
1955.....	103.5	83.4	100.9	103.2	102.7	104.1	108.4	106.5	98.7	109.4	109.4	109.2	106.6
1956.....	105.1	107.4	108.9	108.8	108.5	105.7	105.7	105.2	90.0	102.1	105.3	108.4	105.0
1957.....	97.1	106.8	104.1	101.1	100.8	102.1	99.2	97.4	89.8	93.9	92.3	92.1	85.2
1958.....	85.2	78.7	111.2	85.3	83.8	81.8	83.1	80.1	76.8	90.2	82.6	85.2	84.0
1959.....	83.3	79.2	84.7	80.9	80.4	81.3	84.4	81.5	86.1	88.3	85.5	82.7	84.9
1960.....	81.1	84.5	83.8	80.9	80.0	81.6	81.8	70.0	85.7	86.2	79.0	80.7	79.3
1961.....	77.2	78.1	77.2	73.9	73.3	75.8	75.7	71.8	81.2	85.5	78.4	78.7	77.3
1962.....	78.2	76.8	71.7	71.7	78.2	79.3	77.9	75.4	84.9	84.5	79.6	80.9	77.8
1963.....	82.6	79.7	80.4	80.6	82.1	82.2	83.9	71.1	87.6	89.6	84.5	85.6	84.2
1964.....	90.4	86.1	85.3	85.5	86.8	88.0	89.7	81.3	97.0	99.5	94.7	96.6	94.6
1965.....	101.2	95.8	81.3	94.4	99.5	101.1	103.3	95.0	111.1	111.7	105.9	108.8	106.2

n. a. Not available.

AVERAGE WEEKLY WAGES AND SALARIES IN MANUFACTURING,
LAKE ST. CLAIR REGION, 1949 TO 1965

Year	Average	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
							Dollars						
1949.....							48.85						
1950.....							54.48						
1951.....							60.29						
1952.....							58.67						
1953.....							n.a.						
1954.....							n.a.						71.44
1955.....	73.47	72.45	73.97	75.51	80.05	77.89	70.40	70.86	73.66	74.27	72.58	74.40	65.58
1956.....	74.88	74.36	75.00	75.85	76.06	70.76	76.05	75.06	75.64	76.41	73.40	77.89	72.13
1957.....	78.69	77.21	76.10	79.00	78.68	76.01	80.58	79.42	79.41	79.02	81.62	81.93	75.34
1958.....	84.46	80.20	96.27	83.28	83.55	85.26	84.88	84.42	82.38	82.64	84.83	86.27	79.57
1959.....	88.48	86.15	88.02	87.75	88.91	90.68	89.83	90.12	86.90	90.57	91.34	86.58	84.86
1960.....	90.52	87.53	90.39	92.34	92.78	92.87	92.93	91.78	87.15	88.70	92.00	89.46	88.31
1961.....	93.86	89.71	92.37	95.12	95.22	95.89	96.56	93.78	90.87	92.75	95.12	94.99	93.98
1962.....	97.68	96.09	95.71	96.80	97.88	99.30	99.78	98.14	95.17	95.76	100.12	101.92	95.54
1963.....	102.89	98.83	98.44	101.36	104.46	104.57	102.46	103.28	98.96	101.14	106.87	109.66	104.68
1964.....	108.05	106.24	104.40	105.92	109.61	110.71	108.86	109.82	108.31	111.59	113.65	106.28	101.22
1965.....	113.42	100.94	102.07	121.08	119.34	115.79	117.44	110.03	108.34	116.20	116.27	117.29	116.22

Total	Under	\$1,000	\$2,000	\$3,000	\$4,000	\$6,000	Not
Wage							
Earners	\$1,000	1,999	2,999	3,999	5,999	And Over	Stated

Note: Due to rounding percentages may not add to 100.0

LABOUR INCOME OF THE LAKE ST. CLAIR REGION, COUNTIES, 1957 TO 1964						
	1957	1958	1959	1960	1961	1962 1963 1964
	--- thousands of dollars ---					
A—Border						
Essex	266,434	255,934	274,995	287,328	282,358	296,442 335,414 388,031
Kent	58,679	62,805	69,791	72,428	68,761	78,932 86,922 87,649
Sub-total	325,113	318,739	344,786	359,756	351,119	375,374 422,336 475,680
B—Lambton						
Lambton	91,663	98,300	100,991	112,096	110,701	119,646 119,683 127,605
Total, Region	416,776	417,039	445,777	471,852	461,820	495,020 542,019 603,285
Total, Ontario	6,287,152	6,602,979	6,991,020	7,408,189	7,751,686	8,145,201 8,717,216 9,660,168
Region as % of Ontario	6.6	6.3	6.4	6.4	6.0	6.1 6.2 6.2

DISTRIBUTION OF LABOUR INCOME, COUNTIES, LAKE ST. CLAIR REGION, 1957 TO 1964						
	1957	1958	1959	1960	1961	1962 1963 1964
	--- % ---					
A—Border						
Essex	63.9	61.4	61.7	60.9	61.1	59.9 61.9 64.3
Kent	14.1	15.0	15.6	15.3	14.9	15.9 16.0 14.5
Sub-total	78.0	76.4	77.3	76.2	76.0	75.8 77.9 78.8
B—Lambton						
Lambton	22.0	23.6	22.7	23.8	24.0	24.2 22.1 21.2
Total, Region	100.0	100.0	100.0	100.0	100.0	100.0 100.0 100.0

LABOUR INCOME PER CAPITA OF LABOUR INCOME RECIPIENTS, COUNTIES,
LAKE ST. CLAIR REGION, 1957 TO 1964

	1957	1958	1959	1960	1961	1962	1963	1964
	-----\$-----							
A--Border								
Essex.....	2,896	3,014	3,182	3,322	3,340	3,483	3,812	4,151
Kent.....	2,235	2,375	2,507	2,549	2,415	2,668	2,834	2,865
Sub-total.....	2,750	2,862	3,017	3,131	3,107	3,273	3,559	3,834
B--Lambton								
Lambton.....	3,114	3,192	3,236	3,461	3,578	3,636	3,742	3,842
Total, Region.....	2,822	2,934	3,064	3,204	3,208	3,354	3,598	3,836
Total, Ontario.....	2,915	3,096	3,197	3,309	3,428	3,529	3,678	3,906

INCOME DISTRIBUTION, COUNTIES, LAKE ST. CLAIR REGION, 1960 TO 1963

Income Class \$	1960				1961					
	Essex	Kent	Lambton	Total	Essex	Kent	Lambton	Total		
				Region				Region		
no. of income recipients										
under 1,999	24,858	10,202	9,260	44,320	609,681	25,439	10,632	8,791	44,862	610,492
2,000-2,999	15,708	5,408	5,238	26,354	446,628	14,501	5,979	5,181	25,661	435,794
3,000-3,999	15,064	5,466	4,770	25,300	439,814	13,368	5,187	4,496	23,051	422,944
4,000-4,999	16,158	3,875	4,927	24,960	358,911	16,225	3,528	4,207	23,960	369,940
5,000-5,999	8,354	2,095	3,893	14,342	205,099	8,660	2,077	3,613	14,350	221,542
6,000-9,999	8,229	1,972	4,790	14,991	208,399	8,413	1,734	5,251	15,398	237,793
10,000 and over	1,744	592	867	3,203	64,434	2,097	737	925	3,759	73,897
Total	90,115	29,610	33,745	153,470	2,332,966	88,703	29,874	32,464	151,041	2,372,402
1962									1963	
under 1,999	24,819	9,379	8,518	42,716	583,586	24,701	9,837	8,545	43,083	611,901
2,000-2,999	13,544	5,994	5,732	25,270	427,322	14,405	5,966	5,685	26,056	426,850
3,000-3,999	13,141	5,431	4,544	23,116	428,763	11,913	5,439	4,710	22,062	421,890
4,000-4,999	15,784	4,574	4,867	25,225	368,659	13,631	3,953	4,121	21,705	376,197
5,000-5,999	9,352	2,581	3,695	15,628	249,030	12,500	3,264	3,341	19,105	270,621
6,000-9,999	10,027	2,249	6,121	18,397	280,955	13,379	3,183	6,218	22,780	313,026
10,000 and over	2,627	839	1,049	4,515	83,245	2,765	879	1,296	4,940	92,357
Total	89,294	31,047	34,526	154,867	2,421,560	93,294	32,521	33,916	159,731	2,512,842

LABOUR FORCE, EARNINGS AND INCOME

1961

[illegible]

MONTHLY AND ANNUAL AVERAGE WEATHER DATA,
EXPERIMENTAL FARM, HARROW, ESSEX COUNTY, 1918 - 1954

Month	Mean	Mean	Mean	Rain	Snow	Total *	Sunshine
	Maximum	Minimum					Hours
	Average	Average	Average	Average	Average	Average	Average
	— — — — — F° — — — — —			— — — — — inches — — — — —			
January	32.5	19.0	25.8	1.14	9.8	2.12	76.6
February	35.0	20.1	27.6	1.21	8.3	2.04	93.3
March	43.4	27.3	35.3	1.96	4.7	2.43	123.4
April	55.7	36.0	45.8	2.50	1.4	2.64	162.8
May	68.1	46.6	57.3	2.41	0.1	2.42	237.0
June	79.1	57.9	68.5	2.96	—	2.96	253.3
July	83.5	62.3	72.9	2.13	—	2.13	293.4
August	81.5	60.0	70.7	2.28	—	2.28	265.5
September	71.4	54.0	64.2	2.40	—	2.40	196.6
October	62.6	43.6	53.1	2.05	0.1	2.06	158.6
November	47.0	33.2	39.8	1.57	3.2	1.89	89.1
December	35.2	23.2	29.3	1.23	7.8	2.01	64.1
Annual Total or Mean	57.9	40.3	49.2	23.84	35.4	27.38	2,013.7

*10 inches of snow=1 inch of rain.

NUMBER AND ACREAGE OF FARMS, COUNTIES LAKE ST. CLAIR REGION, 1951, 1956, 1961 AND 1966									
	Year	Number of Farms		Area of Farms		Average Acreage Per Farm	Area of Farms as % of Total Land Area		Total Land Area Acres
		No.	% of Ontario	Acres	% of Ontario		Land Area		
A—Border									
Essex.....	1951	5,316	3.5	375,636	1.8	70.7	83.0	452,480	
	1956	5,312	3.8	377,144	1.9	71.0	83.4		
	1961	4,860	4.0	379,962	2.0	78.2	84.0		
	1966	4,482	4.1	367,501	2.1	82.0	81.2		
Kent.....	1951	5,313	3.5	553,931	2.7	104.3	94.3	587,520	
	1956	5,125	3.6	550,592	2.8	107.4	93.7		
	1961	4,759	3.9	557,133	3.0	117.1	94.8		
	1966	4,187	3.8	555,313	3.1	132.6	94.5		
Sub-total.....	1951	10,629	7.1	929,567	4.5	87.5	89.4	1,040,000	
	1956	10,437	7.4	927,736	4.7	88.9	89.2		
	1961	9,619	7.9	937,095	5.0	97.4	90.1		
	1966	8,669	7.9	922,814	5.2	106.4	88.7		
B—Lambton									
Lambton.....	1951	4,646	3.1	613,215	2.9	132.0	85.2	719,360	
	1956	4,521	3.2	605,142	3.0	133.9	84.1		
	1961	4,206	3.5	600,850	3.2	142.9	83.5		
	1966	4,004	3.6	596,387	3.3	148.9	82.9		
Total, Region.....	1951	15,275	10.2	1,542,782	7.4	101.0	87.7	1,759,360	
	1956	14,958	10.6	1,532,878	7.7	102.5	87.1		
	1961	13,825	11.4	1,537,945	8.3	111.2	87.4		
	1966	12,673	11.5	1,519,201	8.5	119.9	86.3		
Total, Ontario.....	1951	149,920	100.0	20,880,054	100.0	139.3	9.0	232,500,480	
	1956	140,602	100.0	19,879,646	100.0	141.4	8.6		
	1961	121,333	100.0	18,578,507	100.0	153.1	8.0		
	1966	109,887	100.0	17,826,045	100.0	162.2	7.7		

CONDITION OF FARM LAND, COUNTIES, LAKE ST. CLAIR REGION, 1951, 1961 AND 1966

	Year	Total		Improved Land Total		Under Crops		Pasture		Other		Unimproved Land	
		Farm Acreage	Acres	% Total		Acres	Farm Acreage	% Total		Acres	Farm Acreage	Acres	Farm Acreage
				Farm Acreage	% Total			Farm Acreage	% Total				
A—Border													
Essex.....	1951.....	375,636	343,327	91.4	282,652	75.2	35,615	9.5	25,060	6.7	32,309	8.6	
	1961.....	379,962	350,526	92.3	312,981	82.4	17,702	4.7	19,843	5.2	29,436	7.7	
	1966.....	367,501	345,190	93.9	315,471	85.8	10,919	3.0	18,800	5.1	22,311	6.1	
Kent.....	1951.....	553,931	483,834	87.3	394,958	71.3	65,290	11.8	23,586	4.3	70,097	12.7	
	1961.....	557,133	497,823	89.4	443,682	79.6	34,440	6.2	19,701	3.5	59,310	10.6	
	1966.....	555,313	515,069	92.8	465,625	83.9	32,814	5.9	16,630	3.0	40,244	7.2	
Sub-total.....	1951.....	929,567	827,161	89.0	677,610	72.9	100,905	10.9	48,646	5.2	102,406	11.0	
	1961.....	937,095	848,349	90.5	756,663	80.7	52,142	5.6	39,544	4.2	88,746	9.5	
	1966.....	922,814	860,259	93.2	781,096	84.7	43,733	4.7	35,430	3.8	62,555	6.8	
B—Lambton													
Lambton.....	1951.....	613,215	479,739	78.2	280,737	45.8	171,167	27.9	27,835	4.5	133,476	21.8	
	1961.....	600,850	477,070	79.4	311,867	51.9	138,044	23.0	27,159	4.5	123,780	20.6	
	1966.....	596,387	496,398	83.2	347,921	58.3	118,712	19.9	29,765	5.0	99,989	16.8	
Total, Region.....	1951....	1,542,782	1,306,900	84.7	958,347	62.1	272,072	17.6	76,481	5.0	235,882	15.3	
	1961....	1,537,945	1,325,419	86.2	1,068,530	69.5	190,186	12.4	66,703	4.3	212,526	13.8	
	1966....	1,519,201	1,356,657	89.3	1,129,017	74.3	162,445	10.7	65,195	4.3	162,544	10.7	
Total, Ontario.....	1951.....	20,880,054	12,693,250	60.8	8,645,302	41.4	3,235,345	15.5	812,603	3.9	8,186,804	39.2	
	1961.....	18,578,507	12,032,924	64.8	7,990,358	43.0	3,295,609	17.7	746,957	4.0	6,545,583	35.2	
	1966.....	17,826,045	12,004,305	67.3	8,358,741	46.9	2,935,693	16.4	709,871	4.0	5,821,740	32.7	

AGRICULTURE

AGRICULTURE

COMMERCIAL FARMS, COUNTIES, LAKE ST. CLAIR REGION, 1961 AND 1966

		Total No. of Farms	Commercial Farms	
			No.	%
A—Border				
Essex	1961	4,860	3,026	62.3
	1966	4,482	3,108	69.3
Kent	1961	4,759	3,559	74.8
	1966	4,187	3,548	84.7
Sub-total	1961	9,619	6,585	68.5
	1966	8,669	6,656	76.8
B—Lambton				
Lambton	1961	4,206	2,332	55.4
	1966	4,004	2,775	69.3
Total, Region	1961	13,825	8,917	64.5
	1966	12,673	9,431	74.4
Total, Ontario	1961	121,333	69,667	57.4
	1966	109,887	70,724	64.4

VALUE OF AGRICULTURAL PRODUCTS SOLD, COUNTIES, LAKE ST. CLAIR REGION, 1951 AND 1961*

				Value of Agricultural Products Sold Per Farm \$	Change in Value of Agricultural Products Sold Per Farm 1951-1961 %	Value of Agricultural Products Sold Per Acre \$
	Year	Total Value of Agricultural Products Sold (\$000's)				
A—Border						
Essex	1951	19,101	3,593	+95.2	50.8	
	1961	34,080	7,012		90.0	
Kent	1951	27,210	5,121	+49.8	49.1	
	1961	36,497	7,669		65.5	
Sub-total	1951	46,311	4,357	+68.4	49.8	
	1961	70,577	7,337		75.3	
B—Lambton						
Lambton	1951	16,723	3,599	+46.9	27.3	
	1961	22,233	5,286		37.0	
Total, Region	1951	63,034	4,127	+62.7	40.9	
	1961	92,810	6,713		60.3	
Total, Ontario	1951	538,274	3,590	+74.9	25.8	
	1961	761,668	6,278		41.0	

*1966 D.B.S. Census data not available.

ESTIMATE OF PRODUCTION COSTS AND RETURNS OF SELECTED CROPS*, ONTARIO

Returns and Costs		Winter Wheat ⁽¹⁾		Grain Corn ⁽²⁾		Soybeans ⁽³⁾		Sugar Beets ⁽⁴⁾		Hay ⁽⁵⁾		Processing Tomatoes		Processing Peas ⁽⁶⁾	
Per Acre															
Yield Per Acre		38 bu.		71 bu.		22 tons		14 tons		2 tons		17 tons		1.8 tons	
Crop Value (\$)		72		90		63		183		42		623		192	
Operating Costs (\$)		21		30		12		99		14		300		79	
Fixed Costs (\$)		30		39		34		59		25		134		39	
Total Costs (\$)		51		69		46		158		39		437		118	
Margin Over Operating Costs (\$)		51		60		51		84		28		323		113	
Returns (\$)		21		21		17		25		3		186		74	
Fixed Costs as % of Total Costs		58		56		73		37		65		31		33	
Labour Hours Per Acre		7.0		8.5		7.4		34.0		6.0		177.0		n.a.	

n.a. Not available.

*Source: Farm Economics and Statistics Branch, Ontario Department of Agriculture.

- (1) 1956-58
- (2) 1958-60
- (3) 1963
- (4) 1964
- (5) 1961-62
- (6) 1963

ACREAGE AND FARM VALUE OF TOTAL FIELD CROPS,
COUNTIES, LAKE ST. CLAIR REGION, 1951, 1961, 1965 AND 1966

	1951				1961			
	Area		Farm Value		Area		Farm Value	
	Acres	% of Province	(\$000's)	% of Province	Acres	% of Province	(\$000's)	% of Province
A—Border								
Essex.....	255,574	3.1	18,769.8	5.0	271,889	3.6	17,778.3	5.4
Kent.....	361,754	4.4	25,219.5	6.7	410,842	5.4	28,913.4	8.8
Sub-total.....	617,328	7.5	43,989.3	11.7	682,731	9.0	46,691.7	14.2
B—Lambton								
Lambton.....	270,310	3.3	14,534.8	3.9	305,303	4.0	17,285.4	5.3
Total, Region.....	887,638	10.8	58,524.1	15.6	988,034	13.0	63,977.1	19.5
Total, Ontario.....	8,244,267	100.0	374,579.7	100.0	7,606,403	100.0	328,901.0	100.0
1965								
	Area		Farm Value		Area		Farm Value	
	Acres	% of Province	(\$000's)	% of Province	Acres	% of Province	(\$000's)	% of Province
	Acres	% of Province	(\$000's)	% of Province	Acres	% of Province	(\$000's)	% of Province
A—Border								
Essex.....	295,550	3.9	28,711.2	6.7	277,551	3.5	29,138.4	6.1
Kent.....	435,260	5.7	40,807.3	9.5	429,944	5.4	46,891.7	9.9
Sub-total.....	730,810	9.6	69,518.5	16.2	707,495	8.9	76,030.1	16.0
B—Lambton								
Lambton.....	305,590	4.0	20,208.9	4.7	341,532	4.3	26,305.5	5.6
Total, Region.....	1,036,400	13.6	89,727.4	20.9	1,049,027	13.2	102,335.6	21.6
Total, Ontario.....	7,624,700	100.0	429,059.0	100.0	7,943,435	100.0	474,368.0	100.0

ACREAGE AND FARM VALUE OF SUGAR BEETS,
COUNTIES, LAKE ST. CLAIR REGION, 1953 TO 1966

Year	Essex			Kent			Lambton			Total Region			Total, Ontario		
	Area			Area			Area			Area					
	Price			Price			Price			Price			Price		
	% of Province	Per Ton \$	Acres	% of Province	Per Ton \$	Acres	% of Province	Per Ton \$	Acres	% of Province	Per Ton \$	Acres	% of Province	Per Ton \$	Acres
1953.....	1.5	12.10	343	44.7	12.85	10,185	20.2	12.10	4,619	66.4	12.67	15,147	66.4	12.67	22,800
1954.....	2.0	9.33	463	36.4	10.08	8,557	19.0	9.33	4,475	57.4	9.85	13,495	57.4	9.85	23,500
1955.....	5.8	10.88	1,092	49.1	11.63	9,185	18.3	10.88	3,425	73.2	11.42	13,702	73.2	11.42	18,723
1956.....	6.1	14.96	862	50.2	14.96	7,113	17.0	14.21	2,403	73.3	14.82	10,378	73.3	14.82	14,158
1957.....	4.7	13.64	932	58.3	13.74	11,509	15.7	13.42	3,086	78.7	13.68	15,527	78.7	13.68	19,738
1958.....	11.7	12.87	3,699	56.2	12.51	17,728	14.5	12.47	4,586	82.4	12.55	26,013	82.4	12.55	31,584
1959.....	16.2	10.52	5,403	57.7	10.15	19,222	12.1	10.55	4,012	86.0	10.28	28,637	86.0	10.28	33,306
1960.....	12.7	13.94	1,810	69.3	13.80	9,877	7.8	13.68	1,122	89.8	13.81	12,809	89.8	13.81	14,258
1961.....	9.5	12.00	1,560	72.2	11.36	11,797	10.5	12.25	1,718	92.2	11.51	15,075	92.2	11.51	16,353
1962.....	8.8	16.21	1,111	73.0	15.48	9,240	9.3	15.15	1,175	91.1	15.52	11,526	91.1	15.52	12,653
1963.....	11.1	23.32	1,859	68.5	23.19	11,524	9.3	23.29	1,556	88.9	23.21	14,939	88.9	23.21	16,811
1964.....	10.5	13.13	1,961	70.5	12.47	13,218	9.8	12.96	1,839	90.8	12.58	17,018	90.8	12.58	18,742
1965.....	12.6	16.80	1,376	72.5	13.59	7,943	8.4	13.85	915	93.5	14.02	10,234	93.5	14.02	10,950
1966.....	8.3	n.a.	993	73.8	n.a.	8,782	8.7	n.a.	1,037	90.8	n.a.	10,812	90.8	n.a.	11,908

n.a. Not available.

*Estimated.

Note : Prior to 1953 statistics are not available on a county basis.

Source : Ontario Department of Agriculture, *Agricultural Statistics For Ontario*, and Canada and Dominion Sugar Company Limited.

AGRICULTURE

ACREAGE AND FARM VALUE OF SELECTED FIELD CROPS, COUNTIES, LAKE ST. CLAIR REGION, 1951, 1956, 1961, 1965 AND 1966									
		1951				1956			
		Acres		Value		Acres		Value	
		% Total		% Total		% Total		% Total	
		No.	Crops	(\$000's)	Crops	No.	Crops	(\$000's)	Crops
A—Border									
Essex	Winter Wheat	42,298	16.6	2,663.8	14.2	39,189	14.8	2,032.0	14.5
	Corn (Husking)	64,230	25.1	6,541.8	34.9	75,911	28.7	4,798.9	34.3
	Oats	37,248	14.6	1,463.4	7.8	29,517	11.2	840.4	6.0
	Soybeans	62,785	24.6	4,432.4	23.6	74,607	28.2	3,398.4	24.3
	Hay	35,566	13.9	1,386.1	7.4	31,082	11.8	1,406.0	10.1
	Total, All Crops	255,574	100.0	18,769.8	100.0	264,122	100.0	13,980.7	100.0
Kent	Winter Wheat	67,338	18.6	4,432.4	17.6	59,630	15.0	3,274.2	14.7
	Corn (Husking)	99,796	27.6	9,269.9	36.8	145,815	36.6	9,468.3	42.5
	Oats	46,531	12.9	2,002.3	7.9	33,298	8.4	1,047.8	4.7
	Soybeans	60,320	16.7	4,258.4	16.9	89,167	22.4	4,306.1	19.3
	Hay	36,214	10.0	1,377.5	5.5	29,498	7.4	1,462.0	6.6
	Total, All Crops	361,754	100.0	25,219.5	100.0	398,230	100.0	22,260.8	100.0
Sub-total	Winter Wheat	109,636	17.8	7,096.2	16.1	98,819	14.9	5,306.2	14.6
	Corn (Husking)	164,026	26.6	15,811.7	35.9	221,726	33.5	14,267.2	39.4
	Oats	83,779	13.6	3,465.7	7.9	62,815	9.5	1,888.2	5.2
	Soybeans	123,105	19.9	8,690.8	19.8	163,774	24.7	7,704.5	21.3
	Hay	71,780	11.6	2,763.6	6.3	60,580	9.1	2,868.0	7.9
	Total, All Crops	617,328	100.0	43,989.3	100.0	662,352	100.0	36,241.5	100.0
B—Lambton									
Lambton	Winter Wheat	49,757	18.4	2,641.4	18.2	47,000	16.3	2,524.0	18.7
	Corn (Husking)	31,782	11.8	3,407.6	23.4	58,236	20.2	3,861.8	28.7
	Oats	63,326	23.4	2,759.5	19.0	41,927	14.6	1,191.4	8.8
	Soybeans	10,339	3.8	617.6	4.2	38,804	13.5	1,851.1	13.7
	Hay	71,407	26.4	2,649.0	18.2	66,636	23.1	2,426.2	18.0
	Total, All Crops	270,310	100.0	14,534.8	100.0	287,963	100.0	13,471.1	100.0
Total, Region	Winter Wheat	159,393	18.0	9,737.6	16.6	145,819	15.3	7,830.2	15.8
	Corn (Husking)	195,808	22.1	19,219.3	32.8	279,962	29.5	18,129.0	36.5
	Oats	147,105	16.6	6,225.2	10.6	104,742	11.0	3,079.6	6.2
	Soybeans	133,444	15.0	9,308.4	15.9	202,578	21.3	9,555.6	19.2
	Hay	143,187	16.1	5,412.6	9.2	127,216	13.4	5,294.2	10.6
	Total, All Crops	887,638	100.0	58,524.1	100.0	950,315	100.0	49,712.6	100.0

1961				1965				1966			
Acres		Value		Acres		Value		Acres		Value	
% Total		% Total		% Total		% Total		% Total		% Total	
No.	Crops	(\$000's)	Crops	No.	Crops	(\$000's)	Crops	No.	Crops	(\$000's)	Crops
54,329	20.0	2,701.8	15.2	29,000	9.8	2,003.8	7.0	38,462	13.9	3,457.3	11.9
77,723	28.6	6,267.6	35.3	112,900	38.2	12,422.7	43.3	89,829	32.4	11,029.2	37.9
32,666	12.0	1,501.8	8.4	25,400	8.6	1,389.9	4.8	28,288	10.2	1,287.2	4.4
63,605	23.4	4,255.3	23.9	85,500	28.9	7,240.7	25.2	83,392	30.0	8,659.9	29.7
29,616	10.9	1,321.6	7.4	26,500	9.0	1,693.3	5.9	20,252	7.3	1,307.2	4.5
271,889	100.0	17,778.3	100.0	295,550	100.0	28,711.2	100.0	277,551	100.0	29,138.4	100.0
88,000	21.4	4,599.2	15.9	50,100	11.5	3,409.8	8.4	41,499	9.7	3,914.7	8.3
128,165	31.2	11,006.8	38.1	183,200	42.1	20,377.7	49.9	195,528	45.5	25,198.5	53.7
43,168	10.5	2,249.2	7.8	34,500	7.9	2,070.0	5.1	35,316	8.2	1,990.5	4.2
84,168	20.5	6,477.0	22.4	94,700	21.8	8,168.0	20.0	96,184	22.4	9,928.0	21.2
25,476	6.2	1,268.7	4.4	23,000	5.3	1,570.7	3.8	17,899	4.2	1,298.9	2.8
410,842	100.0	28,913.4	100.0	435,260	100.0	40,807.3	100.0	429,944	100.0	46,891.7	100.0
142,329	20.8	7,301.0	15.6	79,100	10.8	5,413.6	7.8	79,961	11.3	7,372.0	9.7
205,888	30.2	17,274.4	37.0	296,100	40.5	32,800.4	47.2	285,357	40.3	36,227.7	47.6
75,834	11.1	3,751.0	8.0	59,900	8.2	3,459.9	5.0	63,604	9.0	3,277.7	4.3
147,773	21.6	10,732.3	23.0	180,200	24.7	15,408.7	22.2	179,576	25.4	18,587.9	24.4
55,092	8.1	2,590.3	5.5	49,500	6.8	3,264.0	4.7	38,151	5.4	2,606.1	3.4
682,731	100.0	46,691.7	100.0	730,810	100.0	69,518.5	100.0	707,495	100.0	76,030.1	100.0
60,016	19.7	3,017.2	17.5	41,300	13.5	2,573.8	12.7	37,035	10.8	3,168.0	12.0
40,999	13.4	3,472.7	20.1	60,900	19.9	5,700.2	28.2	72,055	21.1	7,355.7	28.0
61,795	20.2	2,950.1	17.1	53,500	17.5	2,480.3	12.3	43,686	12.8	1,974.6	7.5
37,640	12.3	2,540.7	14.7	48,700	15.9	3,471.5	17.2	58,189	17.0	5,150.1	19.6
68,460	22.4	2,696.2	15.6	58,000	19.0	2,737.2	13.5	67,925	19.9	4,170.9	15.9
305,303	100.0	17,285.4	100.0	305,590	100.0	20,208.9	100.0	341,532	100.0	26,305.5	100.0
202,345	20.5	10,318.2	16.1	120,400	11.6	7,987.4	8.9	116,996	11.2	10,540.0	10.3
246,887	25.0	20,747.1	32.4	357,000	34.4	38,500.6	42.9	357,412	34.1	43,583.4	42.6
137,629	13.9	6,701.1	10.5	113,400	10.9	5,940.2	6.6	107,290	10.2	5,252.3	5.1
185,413	18.8	13,273.0	20.7	228,900	22.1	18,880.2	21.0	237,765	22.7	23,738.0	23.2
123,552	12.5	5,286.5	8.3	107,500	10.4	6,001.2	6.7	106,076	10.1	6,777.0	6.6
988,034	100.0	63,977.1	100.0	1,036,400	100.0	89,727.4	100.0	1,049,027	100.0	102,335.6	100.0

AGRICULTURE

ACREAGE AND FARM VALUE OF CANNING CROPS, COUNTIES, LAKE ST. CLAIR REGION, 1966			
	Area Acres	Farm Value	
		Total (\$000's)	Per Acre \$
Tomatoes			
Essex.....	10,147	5,125	505
Kent.....	6,795	4,969	731
Lambton.....	248	153	617
Total, Region.....	17,190	10,247	596
Per Cent of Ontario.....	(76.9)	(82.0)	
Total, Ontario.....	22,353	12,490	559
Green Peas			
Essex.....	2,387	221	93
Kent.....	3,836	562	147
Lambton.....	—	—	—
Total, Region.....	6,223	783	126
Per Cent of Ontario.....	(31.9)	(38.7)	
Total, Ontario.....	19,497	2,023	104
Sweet Corn			
Essex.....	6,885	684	99
Kent.....	5,156	814	158
Lambton.....	89	13	146
Total, Region.....	12,130	1,511	125
Per Cent of Ontario.....	(45.1)	(44.3)	
Total, Ontario.....	26,918	3,409	127
Total, Major Canning Crops			
Essex.....	19,419	6,030	311
Kent.....	15,787	6,345	402
Lambton.....	337	166	493
Total, Region.....	35,543	12,541	353
Per Cent of Ontario.....	(51.7)	(70.0)	
Total, Ontario.....	68,768	17,922	261
Minor Canning Crops (Green and Wax Beans, Carrots, Cabbage, Beets, Pumpkin and Squash, Lima Beans)			
Essex.....	n.a.	389	n.a.
Kent.....	n.a.	848	n.a.
Lambton.....	n.a.	77	n.a.
Total, Region.....	n.a.	1,313	n.a.
Per Cent of Ontario.....	—	(58.8)	
Total, Ontario.....	n.a.	2,232	n.a.
Grand Total, Canning Crops			
Essex.....	n.a.	6,419	n.a.
Kent.....	n.a.	7,193	n.a.
Lambton.....	n.a.	243	n.a.
Total, Region.....	n.a.	13,855	n.a.
Per Cent of Ontario.....	—	(68.7)	
Total, Ontario.....	n.a.	20,154	n.a.

n. a. Not available.

**NUMBER OF DAIRY COWS AND BEEF CATTLE,
COUNTIES, LAKE ST. CLAIR REGION, 1951, 1956, 1961 AND 1965**

		Dairy Cows *		Beef Cattle	
	Year	No.	Index	No.	Index
A—Border					
Essex	1951	21,237	100	2,915	100
	1956	18,012	85	3,233	111
	1961	17,995	85	5,170	177
	1965	15,400	73	8,700	298
Kent	1951	13,715	100	18,254	100
	1956	8,318	61	21,576	118
	1961	6,994	51	32,234	177
	1965	5,100	37	46,400	254
Sub-total	1951	34,952	100	21,169	100
	1956	26,330	75	24,809	117
	1961	24,989	71	37,404	177
	1965	20,500	59	55,100	260
B—Lambton					
Lambton	1951	26,298	100	31,519	100
	1956	24,454	93	37,998	121
	1961	24,503	93	47,585	151
	1965	20,400	78	56,800	180
Total, Region	1951	61,250	100	52,688	100
	1956	50,784	83	62,807	119
	1961	49,492	81	84,989	161
	1965	40,900	67	111,900	212
Total, Ontario	1951	1,236,841	100	600,770	100
	1956	1,288,231	104	859,489	143
	1961	1,279,695	103	1,031,633	172
	1965	1,218,000	98	1,307,000	218

*Yearlings for milk purposes included.

AGRICULTURE

NUMBER AND FARM VALUE OF LIVESTOCK, COUNTIES, LAKE ST. CLAIR REGION, JUNE 1ST, 1951, 1956, 1961, 1965 AND 1966

		Horses			Cattle		
		Farm Value			Farm Value		
	Year	No.	% Total			% Total	
			(\$000's)	Livestock		(\$000's)	Livestock
A—Border							
Essex	1951	3,380	302	3.6	30,166	6,968	81.6
	1956	1,087	107	2.5	27,833	3,480	80.5
	1961	933	139	2.2	31,373	4,846	77.8
	1965	900	153	2.4	31,540	5,117	79.0
	1966	962	n.a.		23,251	n.a.	
Kent	1951	3,802	288	2.2	42,317	9,477	73.9
	1956	848	83	1.2	42,430	5,128	72.4
	1961	631	95	0.9	50,805	7,242	70.3
	1965	700	118	0.9	63,530	9,659	71.8
	1966	880	n.a.		54,244	n.a.	
Sub-total . . .	1951	7,182	590	2.8	72,483	16,445	77.0
	1956	1,935	190	1.7	70,263	8,608	75.5
	1961	1,564	234	1.4	82,178	12,088	73.1
	1965	1,600	271	1.4	95,070	14,776	74.1
	1966	1,842	n.a.		77,495	n.a.	
B—Lambton							
Lambton . . .	1951	6,827	498	2.5	80,001	16,575	84.1
	1956	2,880	294	2.4	89,007	10,289	84.2
	1961	1,921	288	1.7	102,177	14,787	85.7
	1965	1,600	270	1.4	105,800	15,848	83.8
	1966	2,026	n.a.		98,800	n.a.	
Total, Region . .	1951	14,009	1,088	2.7	152,484	33,020	80.4
	1956	4,815	484	2.1	159,270	18,897	80.0
	1961	3,485	522	1.6	184,355	26,875	79.5
	1965	3,200	541	1.4	200,870	30,624	78.8
	1966	3,868	n.a.		176,295	n.a.	
Total, Ontario . . .	1951	260,627	22,516	3.5	2,465,875	539,697	83.7
	1956	139,661	15,502	4.0	2,900,670	328,787	83.8
	1961	88,864	14,456	2.6	3,115,677	481,870	87.1
	1965	79,000	13,746	2.3	3,344,000	506,549	86.5
	1966	75,355	n.a.		3,136,956	n.a.	

n. a. Not available.

Swine			Sheep and Lambs			Total Livestock	
Farm Value			Farm Value			Farm Value	
% Total			% Total			% Total	
No.	(\$000's)	Livestock	No.	(\$000's)	Livestock	(\$000's)	Livestock
30,355	1,198	14.0	2,061	71	0.8	8,539	1.3
25,591	702	16.2	1,631	33	0.8	4,322	1.1
38,777	1,213	19.5	1,699	34	0.5	6,232	1.1
41,200	1,188	18.3	1,100	22	0.3	6,480	1.1
29,445	n.a.		980	n.a.		n.a.	
69,862	2,945	23.0	2,964	109	0.9	12,819	2.0
61,647	1,779	25.1	4,692	95	1.3	7,085	1.8
91,946	2,870	27.9	4,934	94	0.9	10,301	1.9
108,900	3,598	26.7	4,100	82	0.6	13,457	2.3
88,609	n.a.		3,864	n.a.		n.a.	
100,217	4,143	19.4	5,025	180	0.8	21,358	3.3
87,238	2,481	21.7	6,323	128	1.1	11,407	2.9
130,723	4,083	24.7	6,633	128	0.8	16,533	3.0
150,100	4,786	24.0	5,200	104	0.5	19,937	3.4
118,054	n.a.		4,844	n.a.		n.a.	
50,349	1,982	10.1	17,848	654	3.3	19,709	3.1
51,852	1,310	10.7	16,683	322	2.7	12,215	3.1
61,768	1,906	11.0	14,100	282	1.6	17,263	3.1
79,600	2,507	13.3	13,900	280	1.5	18,905	3.2
88,545	n.a.		10,306	n.a.		n.a.	
150,566	6,125	14.9	22,873	834	2.0	41,067	6.4
139,090	3,791	16.0	23,006	450	1.9	23,622	6.0
192,491	5,989	17.7	20,733	410	1.2	33,796	6.1
229,700	7,293	18.8	19,100	384	1.0	38,842	6.6
206,599	n.a.		15,150	n.a.		n.a.	
1,755,490	70,006	10.9	360,201	12,413	1.9	644,632	100.0
1,548,280	40,466	10.3	393,811	7,464	1.9	392,219	100.0
1,686,340	50,472	9.1	341,086	6,287	1.2	553,085	100.0
1,940,000	59,840	10.2	302,000	5,718	1.0	585,853	100.0
1,935,595	n.a.		265,396	n.a.		n.a.	

n. a. Not available.

AGRICULTURE

NUMBER OF CATTLE MARKETED*, COUNTIES, LAKE ST. CLAIR REGION, 1951, 1961 AND 1966					
	Year	Number	% of Ontario Total	Total Inward Movement	% of Ontario Total
A—Border					
Essex	1951	3,041	0.6	285	0.2
	1961	13,366	1.8	166	0.1
	1966	5,990	0.6	495	0.3
Kent	1951	18,669	3.4	10,552	9.2
	1961	37,074	4.9	17,749	11.7
	1966	50,279	5.1	14,943	8.3
Sub-total	1951	21,710	4.0	10,837	9.4
	1961	50,440	6.7	17,915	11.8
	1966	56,269	5.7	15,438	8.6
B—Lambton					
Lambton	1951	16,975	3.1	3,899	3.4
	1961	19,202	2.6	2,116	1.4
	1966	26,022	2.6	2,859	1.6
Total, Region	1951	38,685	7.1	14,736	12.8
	1961	69,642	9.3	20,031	13.2
	1966	82,291	8.3	18,297	10.2
Total, Ontario	1951	543,454	100.0	114,586	100.0
	1961	751,054	100.0	152,088	100.0
	1966	990,861	100.0	179,260	100.0

*Sold to public stockyards, packing plants or direct to export.

NUMBER AND FARM VALUE OF POULTRY,
COUNTIES, LAKE ST. CLAIR REGION, JUNE 1ST, 1951, 1956, 1961, 1965 AND 1966

	Year	Hens and Chickens		Turkeys		Other Poultry		Total
		No.	Value \$	No.	Value \$	No.	Value \$	Poultry Value \$
A—Border								
Essex.....	1951	607,787	860,290	39,638	208,892	10,673	24,330	1,093,512
	1956	517,588	546,700	94,917	218,500	8,706	13,200	778,400
	1961	514,061	523,904	249,575	873,517	8,234	14,742	1,412,163
	1965	481,600	501,100	n.a.	n.a.	n.a.	n.a.	n.a.
	1966	481,855	n.a.	154,703	n.a.	3,808	n.a.	n.a.
Kent.....	1951	907,422	1,192,478	8,643	45,548	18,485	40,983	1,279,009
	1956	784,556	783,700	29,671	93,600	14,092	20,200	897,500
	1961	797,313	878,533	67,973	297,722	10,467	22,171	1,198,426
	1965	732,900	795,700	n.a.	n.a.	n.a.	n.a.	n.a.
	1966	659,670	n.a.	82,562	n.a.	6,140	n.a.	n.a.
Sub-total.....	1951	1,515,209	2,052,768	48,281	254,440	29,158	65,313	2,372,521
	1956	1,302,144	1,330,400	124,588	312,100	22,798	33,400	1,675,900
	1961	1,311,374	1,402,437	317,548	1,171,239	18,701	36,913	2,610,589
	1965	1,214,500	1,296,800	n.a.	n.a.	n.a.	n.a.	n.a.
	1966	1,141,525	n.a.	237,265	n.a.	9,948	n.a.	n.a.
B—Lambton								
Lambton.....	1951	1,260,097	1,767,987	66,110	348,400	21,623	58,397	2,174,784
	1956	1,207,237	1,279,800	133,540	441,000	14,264	23,600	1,744,400
	1961	1,006,253	1,047,982	388,368	1,871,934	9,077	24,968	2,944,884
	1965	944,800	979,900	n.a.	n.a.	n.a.	n.a.	n.a.
	1966	891,386	n.a.	316,209	n.a.	6,605	n.a.	n.a.
Total, Region.....	1951	2,775,306	3,820,755	114,391	602,840	50,781	123,710	4,547,305
	1956	2,509,381	2,610,200	258,128	753,100	37,062	57,000	3,420,300
	1961	2,317,627	2,450,419	705,916	3,043,173	27,778	61,881	5,555,473
	1965	2,159,300	2,276,700	n.a.	n.a.	n.a.	n.a.	n.a.
	1966	2,032,911	n.a.	553,474	n.a.	16,553	n.a.	n.a.
n.a. Not available.								

AGRICULTURE

CAPITAL VALUE PER ACRE OF FARMS, COUNTIES, LAKE ST. CLAIR REGION, 1951 AND 1961*

	1951						1961						Change in Index Value Per Acre,1961 (1951 = 100)
	Total Value \$000's			Percentage of Total Value Per Acre %			Total Value \$000's			Percentage of Total Value Per Acre %			
A-Border													
Essex	Land and Buildings.....	63,758.3	170.0	69.0			135,140.7	356.0	80.0			209	
	Machinery and Equipment..	19,162.4	51.0	21.0			26,912.7	71.0	16.0			139	
	Livestock and Poultry.....	9,656.0	26.0	10.0			7,654.1	20.0	4.0			77	
	Total.....	92,576.7	247.0	100.0			169,707.5	447.0	100.0			181	
Kent	Land and Buildings.....	71,987.0	130.0	66.0			141,705.7	254.0	77.0			195	
	Machinery and Equipment..	23,007.2	42.0	21.0			30,620.9	55.0	17.0			131	
	Livestock and Poultry.....	14,120.2	25.0	13.0			11,504.8	21.0	6.0			84	
	Total.....	109,114.4	197.0	100.0			183,831.4	330.0	100.0			168	
Sub-total	Land and Buildings.....	135,745.3	146.0	67.0			276,846.4	295.0	79.0			202	
	Machinery and Equipment..	42,169.6	45.0	21.0			57,533.6	61.0	16.0			132	
	Livestock and Poultry.....	23,776.3	26.0	12.0			19,158.9	20.0	5.0			77	
	Total.....	201,691.2	217.0	100.0			353,538.9	376.0	100.0			173	
B-Lambton													
Lambton	Land and Buildings.....	43,618.2	71.0	54.0			77,219.5	129.0	66.0			182	
	Machinery and Equipment..	14,698.5	24.0	18.0			18,921.9	31.0	16.0			129	
	Livestock and Poultry.....	21,921.5	36.0	28.0			20,210.7	34.0	18.0			94	
	Total.....	80,238.3	131.0	100.0			116,352.1	194.0	100.0			148	
Total, Region	Land and Buildings.....	179,363.5	116.0	63.0			354,065.9	230.0	75.0			198	
	Machinery and Equipment	56,868.1	37.0	20.0			76,455.5	50.0	16.0			135	
	Livestock and Poultry....	45,697.8	30.0	17.0			39,369.6	26.0	9.0			87	
	Total, Region.....	281,929.4	183.0	100.0			469,891.0	306.0	100.0			167	
Total, Ontario	Land and Buildings.....	1,419,363.8	68.0	56.0			2,572,302.7	138.0	69.0			203	
	Machinery and Equipment..	445,277.5	21.0	17.0			579,281.7	31.0	15.0			148	
	Livestock and Poultry.....	683,328.3	33.0	27.0			590,011.6	32.0	16.0			97	
	Total, Ontario.....	2,547,969.6	122.0	100.0			3,741,596.0	201.0	100.0			165	

*1966 D.B.S. Census data not available.

MAJOR ASPECTS OF FARM MECHANIZATION,
COUNTIES, LAKE ST. CLAIR REGION, 1961 AND 1966

Year	Area of Improved Acres (000's)	No. of Tractors	Acres Per Tractor	Acres of Combinable Crops ⁽¹⁾ (000's)	No. of Grain Combines	Acres Per Combine	Acres of Hay (000's)	No. of Pick-up Hay Balers	Acres Per Baler
A—Border									
Essex.....	1961	7,703	45.6	91	1,469	61.9	30	429	69.9
	1966	8,063	42.8	70	1,191	58.8	20	482	41.5
	% change 1966/61	+4.7	-6.1	-23.1	-18.9	-5.0	-33.3	+12.4	-40.6
Kent.....	1961	8,715	57.1	162	2,235	72.5	25	591	42.3
	1966	9,133	56.4	105	1,988	52.8	18	675	26.7
	% change 1966/61	+4.8	-1.2	-35.2	-11.1	-27.2	-28.0	+14.2	-36.9
Sub-total.....	1961	16,418	51.7	253	3,704	68.3	55	1,020	53.9
	1966	17,196	50.0	175	3,179	55.0	38	1,157	32.8
	% change 1966/61	+4.7	-3.3	-30.8	-14.2	-19.5	-31.0	+13.4	-39.1
B—Lambton									
Lambton.....	1961	5,856	81.5	137	1,479	92.6	68	645	105.4
	1966	6,671	74.4	118	1,512	78.0	68	904	75.2
	% change 1966/61	+13.9	-8.7	-13.9	+2.2	-15.8	—	+40.2	-28.7
Total, Region.....	1961	22,274	59.5	390	5,183	75.2	123	1,665	73.9
	1966	23,867	56.8	293	4,691	62.5	106	2,061	51.4
	% change 1966/61	+7.2	-4.5	-24.9	-9.5	-16.9	-13.8	+23.8	-30.4
Total, Ontario.....	1961	150,046	80.2	3,324	22,387	148.5	3,281	28,061	116.9
	1966	162,303	74.0	3,282	25,372	129.4	3,418	38,201	89.5
	% change 1966/61	+8.2	-7.7	-1.3	+13.3	-12.9	+4.2	+36.1	-23.4

AGRICULTURE

(1) Excludes grain corn

MINING

MINERAL PRODUCTION, LAKE ST. CLAIR REGION, 1961 TO 1965						
	1961			1962		
	Ontario	Region	% of Ontario	Ontario	Region	% of Ontario
Total Value of Production. (\$000's)	943,669	22,041	2.3	913,342	24,168	2.6
Non-Metallics. (\$000's)	23,630	8,848	37.4	27,321	9,292	34.0
Salt. tons	2,861,705	2,224,647	77.7	3,155,589	2,257,941	71.6
(\$000's)	13,586	8,848	65.1	15,388	9,292	60.4
Fuels. (\$000's)	9,161	6,275	68.5	9,464	6,580	69.5
Natural Gas. M.cu.ft.	14,544,165	11,218,213	77.1	15,648,294	12,007,618	76.7
(\$000's)	5,614	4,330	77.1	5,802	4,452	76.7
Petroleum. bbls.	1,149,087	629,925	54.8	1,134,534	659,444	58.1
(\$000's)	3,547	1,944	54.8	3,661	2,128	58.1
Structural Materials. . . (\$000's)	130,093	6,918	5.3	146,788	8,295	5.7
Clay Products. *	*	*	*	*	*	*
(\$000's)	19,037	1,263	6.6	20,147	1,178	5.8
Lime. tons	865,130	227,750	26.3	910,930	242,844	26.7
(\$000's)	11,548	3,145	27.2	10,528	2,031	19.3
Sand & Gravel. tons	70,208,199	2,557,062	3.6	76,600,813	4,799,044	6.3
(\$000's)	40,344	1,585	3.9	52,365	4,237	8.1
Stone. tons	18,361,843	1,181,220**	6.4	17,279,797	836,176**	4.8
(\$000's)	23,493	925	3.9	19,892	849	4.3

*No common measure.
**Only limestone produced in Region.

MINING

1963			1964			1965		
Ontario	Region	% of Ontario	Ontario	Region	% of Ontario	Ontario	Region	% of Ontario
873,828	23,766	2.7	901,583	22,149	2.5	992,789	23,750	2.4
26,926	8,572	31.8	21,473	8,768	40.8	23,088	9,507	41.2
3,187,491	2,303,659	72.3	3,335,683	2,472,105	74.1	3,900,484	2,650,759	68.0
14,793	8,572	57.9	11,553	8,768	75.9	15,499	9,507	61.3
9,509	6,727	70.7	9,774	6,740	69.0	8,949	5,507	61.5
15,920,055	11,971,642	75.2	13,815,967	10,323,952	74.7	12,699,483	9,067,228	71.4
6,050	4,549	75.2	5,760	4,304	74.7	4,856	3,467	71.4
1,205,376	758,664	62.9	1,246,682	756,379	60.7	1,279,162	637,562	49.8
3,459	2,177	62.9	4,014	2,436	60.7	4,093	2,040	49.8
154,218	8,467	5.5	169,063	6,642	3.9	184,719	8,736	4.7
*	*	*	*	*	*	*	*	*
21,820	1,248	5.7	23,724	1,302	5.5	25,131	1,358	5.4
952,945	268,336	28.2	1,049,798	284,169	27.1	1,132,193	277,064	24.5
11,434	2,658	23.2	13,128	2,806	21.4	13,842	2,745	19.8
80,259,750	4,927,663	6.1	76,917,396	2,581,362	3.4	88,564,687	4,504,447	5.1
56,338	3,796	6.7	54,589	1,641	3.0	63,406	3,267	5.2
19,205,898	695,106**	3.6	22,217,344	761,663**	3.4	24,659,053	1,030,012**	4.2
20,544	765	3.7	25,243	892	3.5	32,285	1,366	4.2

ENERGY

ELECTRIC ENERGY CONSUMED BY AND REVENUE RECEIVED
FROM ULTIMATE CUSTOMERS IN THE LAKE ST. CLAIR
REGION, SERVED DIRECTLY OR INDIRECTLY BY THE
HYDRO-ELECTRIC POWER COMMISSION OF ONTARIO,
1951, 1961 TO 1966

	1951	1961	1962	1963	1964	1965	1966	Increase 1966/1951 %
	— — — — — millions of kilowatt hours — — — — —							
A—Border								
Primary								
Domestic (Incl. residential type and summer cottage)	187.9	337.5	357.1	377.5	408.4	457.9	491.0	161.3
Farm	43.7	72.4	77.3	85.0	85.2	91.3	96.8	121.5
Commercial	90.1	155.8	167.1	180.9	198.5	219.6	265.5	194.6
Power (Incl. direct industrial) . . .	278.9	323.6	355.6	402.4	460.5	554.6	628.0	125.2
Street Lighting	9.6	19.7	20.8	22.0	23.1	24.0	24.7	157.3
Total	610.2	909.0	977.9	1,067.8	1,175.7	1,347.4	1,506.0	146.8
Secondary	—	—	—	—	—	—	—	
Other	—	—	—	—	—	—	—	
Total Primary, Secondary and Other	610.2	909.0	977.9	1,067.8	1,175.7	1,347.4	1,506.0	146.8
B—Lambton								
Primary								
Domestic (Incl. residential type and summer cottage)	42.8	93.0	97.9	101.3	109.7	117.0	133.2	211.2
Farm	11.6	24.9	26.8	30.2	30.9	33.7	34.5	197.4
Commercial	16.3	40.0	43.6	51.0	56.3	63.2	69.5	326.4
Power (Incl. direct industrial) . .	231.1	1,041.4	1,027.8	1,145.8	993.4	1,142.1	1,496.5	547.6
Street Lighting	1.4	3.8	4.0	4.3	4.5	4.8	5.2	271.4
Total	303.2	1,203.1	1,200.1	1,332.6	1,194.8	1,360.8	1,738.9	473.5
Secondary	—	—	—	—	—	—	—	
Other	—	—	—	—	—	—	—	
Total Primary, Secondary and Other	303.2	1,203.1	1,200.1	1,332.6	1,194.8	1,360.8	1,738.9	473.5
Total, Region	913.4	2,112.1	2,178.0	2,400.4	2,370.5	2,708.2	3,244.9	255.3

1951	1961	1962	1963	1964	1965	1966	Increase 1966/1951 %
— — — — — thousands of dollars — — — — —							
2,751	5,112	5,312	5,531	5,856	6,391	6,901	150.9
873	1,414	1,464	1,561	1,554	1,634	1,708	95.6
1,453	2,491	2,621	2,788	3,005	3,278	3,677	153.1
2,496	3,834	4,028	4,341	4,797	5,574	5,959	138.7
254	566	620	669	686	720	738	190.6
7,827	13,417	14,045	14,890	15,898	17,597	18,983	142.5
—	—	—	—	—	—	—	
—	1	2	1	2	1	1	
7,827	13,418	14,047	14,891	15,900	17,598	18,984	142.5
708	1,390	1,465	1,572	1,727	1,842	1,980	179.7
238	488	514	554	564	602	612	157.1
286	632	687	814	923	1,028	1,082	278.3
1,452	6,323	6,195	7,207	6,571	7,546	9,122	528.2
46	104	117	123	131	139	156	239.1
2,730	8,937	8,978	10,270	9,916	11,157	12,952	374.4
—	—	—	—	—	—	—	
—	—	3	2	—	1	2	
2,730	8,937	8,981	10,272	9,916	11,156	12,954	374.5
10,557	22,355	23,028	25,163	25,816	28,754	31,938	202.5

MANUFACTURING

MANUFACTURING STATISTICS, COUNTIES, LAKE ST. CLAIR REGION, 1957 TO 1962					
		Establish- ments No.	Employees No.	Salaries and Wages (\$000's)	Selling Value of Factory Shipments (\$000's)
Essex.....	1957	474	34,702	140,662	637,991
	1958	471	27,850	122,459	547,576
	1959	452	28,721	135,718	575,240
	1960	487	27,808	134,133	609,167
	1961	469	26,060	129,121	560,290
	1962	484	26,758	137,692	617,644
Kent.....	1957	195	6,936	24,673	139,034
	1958	193	6,804	24,503	139,576
	1959	189	6,987	26,323	162,960
	1960	201	6,979	26,751	158,771
	1961	179	6,355	25,415	160,536
	1962	189	7,000	28,822	162,544
Lambton.....	1957	134	9,155	42,745	427,752
	1958	128	8,900	43,405	439,636
	1959	129	8,608	44,459	400,037
	1960	135	9,011	48,189	427,388
	1961	130	8,899	48,656	448,054
	1962	126	9,493	54,141	478,518
Total, Region.....	1957	803	50,793	208,080	1,204,777
	1958	792	43,554	190,367	1,126,788
	1959	770	44,316	206,500	1,138,237
	1960	823	43,798	209,073	1,195,326
	1961	778	41,314	203,192	1,168,880
	1962	799	43,251	220,655	1,258,706

PRINCIPAL STATISTICS OF MANUFACTURING, BY INDUSTRIAL GROUPS, LAKE ST. CLAIR REGION, 1957

	Establishments No.	Employees No.	Salaries and Wages (\$000's)	Cost of Fuel and Electricity (\$000's)		Cost at Plant of Materials Used (\$000's)	Total Selected Production Cost (\$000's)	Selling Value of Factory Shipments (\$000's)
Foods and Beverages.....	233	7,888	26,004	3,034	90,065	119,103	173,662	
Tobacco Products.....	7	448	1,340	91	17,938	19,369	20,315	
Textile.....	17	343	1,066	45	1,949	3,060	3,739	
Clothing.....	10	295	653	14	926	1,593	1,998	
Wood.....	58	522	1,394	103	1,761	3,258	4,045	
Furniture and Fixtures.....	43	197	585	42	1,333	1,960	2,285	
Printing, Publishing and Allied Industries.....	77	1,121	4,236	122	2,762	7,120	10,380	
Primary Metals.....	20	1,591	5,934	433	6,187	12,554	15,110	
Metal Fabricating.....	115	5,328	22,447	1,272	33,363	57,082	74,534	
Machinery.....	20	1,185	5,042	130	7,870	13,042	18,903	
Transportation Equipment.....	43	20,868	88,994	4,017	263,952	356,963	407,675	
Non-Metallic Mineral Products....	51	2,383	8,866	2,207	12,326	23,399	35,779	
Petroleum and Coal Products.....	3	2,276	11,985	906	165,415	178,306	200,934	
Chemical and Chemical Products..	42	5,319	25,584	11,650	64,921	102,155	153,570	
Miscellaneous Manufacturing.....	50	599	2,214	138	3,154	5,506	7,611	
Other Major Groups.....	14	430	1,735	10,427	3,645	15,807	74,237	
Total, All Groups.....	803	50,793	208,080	34,631	677,569	920,280	1,204,777	
Total, Ontario.....	12,162	636,162	2,410,286	221,536	5,732,215	8,364,036	10,811,118	

Note: Due to rounding, figures may not add to totals.

PRINCIPAL STATISTICS OF MANUFACTURING, BY INDUSTRIAL GROUPS, LAKE ST. CLAIR REGION, 1958							
	Establishments No.	Employees No.	Salaries and Wages (\$000's)	Cost of Fuel and		Total Selected Production Cost (\$000's)	Selling Value of Factory Shipments (\$000's)
				Electricity (\$000's)	Materials Used (\$000's)		
Foods and Beverages.....	236	8,223	28,566	3,406	105,222	137,194	194,735
Tobacco Products.....	7	764	2,037	104	34,787	36,928	38,664
Textile.....	14	157	397	13	1,267	1,677	1,850
Clothing.....	10	278	656	12	928	1,596	1,996
Wood.....	55	484	1,361	107	1,887	3,355	4,076
Furniture and Fixtures.....	36	169	520	27	1,334	1,881	2,268
Printing, Publishing and Allied Industries.....	77	1,146	4,404	112	2,797	7,313	10,833
Primary Metals.....	20	1,284	4,837	426	4,891	10,154	13,205
Metal Fabricating.....	118	4,604	19,859	1,059	29,766	50,684	66,392
Machinery.....	19	889	3,834	109	5,038	8,981	14,338
Transportation Equipment.....	43	14,902	73,034	3,438	187,863	264,335	299,106
Electrical Products.....	7	190	727	47	1,476	2,250	2,720
Non-Metallic Mineral Products....	47	2,207	8,506	2,509	10,106	21,121	31,414
Petroleum and Coal Products.....	3	2,075	11,454	1,290	171,518	184,262	205,134
Chemical and Chemical Products..	37	5,113	26,112	15,274	68,152	109,538	158,881
Miscellaneous Manufacturing.....	53	602	2,297	135	3,194	5,626	7,726
Other Major Groups.....	10	467	1,766	11,008	4,025	16,799	73,448
Total, All Groups.....	792	43,554	190,367	39,077	634,251	863,695	1,126,788
Total, Ontario.....	11,857	599,969	2,397,703	215,499	5,624,613	8,237,813	10,579,486

Note: Due to rounding, figures may not add to totals.

PRINCIPAL STATISTICS OF MANUFACTURING, BY INDUSTRIAL GROUPS, LAKE ST. CLAIR REGION, 1959

	Establishments No.	Employees No.	Salaries and Wages (\$000's)	Cost of Fuel and Electricity (\$000's)		Cost at Plant of Materials Used (\$000's)	Total Selected Production Cost (\$000's)	Selling Value of Factory Shipments (\$000's)
Foods and Beverages.....	227	7,917	29,314	3,351	99,370	132,035	208,039	
Tobacco Products.....	7	863	2,237	106	34,409	36,752	38,651	
Textile.....	14	155	421	13	1,145	1,579	2,020	
Clothing.....	9	277	665	14	863	1,542	2,005	
Wood.....	50	463	1,339	101	1,860	3,300	4,031	
Furniture and Fixtures.....	37	183	623	28	1,685	2,336	2,719	
Printing, Publishing and Allied Industries	76	1,135	4,690	117	2,976	7,784	11,617	
Primary Metals.....	19	1,329	5,626	480	6,896	13,002	16,619	
Metal Fabricating.....	118	4,695	21,354	1,113	28,280	50,747	67,075	
Machinery.....	18	887	3,806	115	5,962	9,883	14,889	
Transportation Equipment.....	42	16,266	85,386	3,908	196,666	285,960	331,801	
Electrical Products.....	8	403	1,588	61	2,820	4,469	6,567	
Non-Metallic Mineral Products....	48	2,294	9,514	2,609	11,650	23,773	35,267	
Petroleum and Coal Products.....	3	1,940	11,609	1,085	181,715	194,409	217,313	
Chemical and Chemical Products..	38	4,700	25,033	15,938	69,393	110,364	156,391	
Miscellaneous Manufacturing.....	48	673	2,818	143	3,154	6,115	8,856	
Other Major Groups.....	8	136	476	11,822	971	13,269	14,374	
Total, All Groups.....	770	44,316	206,500	41,004	649,815	897,319	1,138,237	
Total, Ontario.....	11,728	608,802	2,544,679	232,026	6,096,982	8,873,687	11,438,365	

Note: Due to rounding, figures may not add to totals.

MANUFACTURING

MANUFACTURING

PRINCIPAL STATISTICS OF MANUFACTURING, BY INDUSTRIAL GROUPS, LAKE ST. CLAIR REGION, 1960

	Establishments		Employees		Salaries and Wages		Cost of Fuel and Electricity		Cost at Plant of Materials Used		Total Selected Production Cost		Selling Value of Factory Shipments	
	No.	No.	No.	No.	(\$000's)	(\$000's)	(\$000's)	(\$000's)	(\$000's)	(\$000's)	(\$000's)	(\$000's)	(\$000's)	(\$000's)
Foods and Beverages.....	238		8,175		30,797		3,241		111,163		145,201		224,058	
Tobacco Products.....	7		850		2,570		100		39,626		42,296		43,807	
Leather.....	3		3		4		1		7		12		13	
Textile.....	14		161		444		12		1,460		1,916		2,260	
Clothing.....	8		262		634		12		814		1,460		1,868	
Wood.....	52		419		1,294		98		1,676		3,068		3,872	
Furniture and Fixtures.....	44		191		647		28		1,529		2,204		2,728	
Paper and Allied Industries.....	3		70		237		14		415		666		1,019	
Printing, Publishing and Allied Industries.....	78		1,133		4,861		118		2,983		7,962		11,790	
Primary Metals.....	19		1,204		4,934		465		5,598		10,997		13,871	
Metal Fabricating.....	127		4,505		20,614		1,189		27,367		49,170		65,787	
Machinery.....	19		839		3,932		129		6,616		10,677		15,309	
Transportation Equipment.....	44		15,005		80,737		3,800		215,458		299,995		346,363	
Electrical Products.....	9		186		783		29		1,263		2,075		2,442	
Non-Metallic Mineral Products....	50		2,198		9,017		1,970		10,285		21,272		30,162	
Petroleum and Coal Products.....	3		1,968		11,784		1,089		172,930		185,803		225,343	
Chemical and Chemical Products..	39		5,388		30,163		18,952		75,813		124,928		177,100	
Miscellaneous Manufacturing.....	61		723		3,023		149		3,146		6,318		9,371	
Other Major Groups.....	5		518		2,597		9,967		4,936		17,500		18,161	
Total, All Groups.....	823		43,798		209,073		41,364		683,088		933,525		1,195,326	
Total, Ontario.....	12,090		594,319		2,557,397		235,718		6,031,928		8,825,043		11,479,327	

Note: Due to rounding, figures may not add to totals.

PRINCIPAL STATISTICS OF MANUFACTURING, BY INDUSTRIAL GROUPS, LAKE ST. CLAIR REGION, 1961

	Establishments No.	Employees No.	Salaries and Wages (\$000's)	Cost of Fuel and Electricity (\$000's)		Cost at Plant of Materials Used (\$000's)	Total Selected Production Cost (\$000's)	Selling Value of Factory Shipments (\$000's)
Foods and Beverages	208	7,756	30,510	3,328		112,075	145,913	221,903
Tobacco Products	6	659	2,227	104		34,212	36,543	49,217
Leather	3	3	3	*		7	10	13
Textile	15	130	352	12		1,660	2,024	2,390
Clothing	7	265	570	11		996	1,577	1,856
Wood	37	351	1,044	67		1,297	2,408	3,162
Furniture and Fixtures	45	187	628	31		1,496	2,155	2,646
Paper and Allied Industries	5	90	291	12		677	980	1,188
Printing, Publishing and Allied Industries	77	1,122	4,879	117		3,087	8,083	12,123
Primary Metals	17	1,115	4,882	468		5,072	10,422	13,100
Metal Fabricating	133	4,280	20,356	1,186		29,018	50,560	61,948
Machinery	19	847	4,036	132		7,246	11,414	16,746
Transportation Equipment	43	14,184	77,721	3,826		192,313	273,860	308,286
Electrical Products	11	212	768	32		1,442	2,242	3,025
Non-Metallic Mineral Products	44	1,987	8,561	1,736		9,611	19,908	27,090
Petroleum and Coal Products	3	1,916	11,579	1,177		176,347	189,103	238,484
Chemical and Chemical Products	43	5,415	31,397	17,301		76,795	125,493	195,630
Miscellaneous Manufacturing	59	775	3,318	159		3,834	7,311	9,871
Other Major Groups	3	20	70	5		100	175	204
Total, All Groups	778	41,314	203,192	29,704		657,285	890,181	1,168,880
Total, Ontario	12,081	591,415	2,597,408	236,709		6,337,293	9,171,410	11,957,330

*Less than \$500 or .05 per cent.
Note: Due to rounding, figures may not add to totals.

PRINCIPAL STATISTICS OF MANUFACTURING, BY INDUSTRIAL GROUPS, LAKE ST. CLAIR REGION, 1962								
	Establishments No.	Employees No.	Salaries and Wages (\$000's)	Cost of Fuel and Electricity (\$000's)		Cost at Plant of Materials Used (\$000's)	Total Selected Production Cost (\$000's)	Selling Value of Factory Shipments (\$000's)
Foods and Beverages	204	8,742	35,956	3,819		125,778	165,553	242,170
Tobacco Products	6	740	2,045	94		26,607	28,746	33,199
Leather	3	—	—	—		9	9	17
Textile	13	123	311	11		1,566	1,888	2,312
Clothing	7	278	635	11		1,185	1,831	2,115
Wood	36	415	1,265	74		1,712	3,051	4,002
Furniture and Fixtures	53	194	678	46		1,785	2,509	3,216
Printing, Publishing and Allied Industries	81	1,072	4,925	125		3,365	8,415	12,600
Primary Metals	18	1,093	5,033	475		6,122	11,630	13,923
Metal Fabricating	146	4,802	23,527	1,384		34,776	59,687	73,792
Machinery	21	974	4,403	132		10,250	14,785	18,359
Transportation Equipment	46	13,840	80,367	3,888		221,561	305,816	347,849
Electrical Products	11	198	864	31		2,045	2,940	3,538
Non-Metallic Mineral Products	43	2,203	9,837	1,769		11,656	23,262	33,774
Petroleum and Coal Products	3	1,894	12,011	1,250		198,694	211,955	253,454
Chemical and Chemical Products	42	5,937	35,937	17,147		77,277	130,361	204,199
Miscellaneous Manufacturing	58	637	2,488	139		3,736	6,363	8,740
Other Major Groups	8	109	373	25		829	1,227	1,448
Total, Region	799	43,251	220,655	30,421		728,954	980,030	1,258,706
Total, Ontario	12,586	455,872	3,078,766	249,458		7,176,221	10,504,445	13,342,557

PERCENTAGE DISTRIBUTION OF TOTAL SELECTED PRODUCTION COST, INDUSTRIAL GROUPS,
LAKE ST. CLAIR REGION, 1957 TO 1962

	1957					1958					1959				
	Cost of		Total		Selected Production Cost	Cost of		Total		Selected Production Cost	Cost of		Total		Selected Production Cost
	Total Payroll	Fuel and Electricity	Cost of Materials Used	Cost of Materials Used		Total Payroll	Fuel and Electricity	Cost of Materials Used	Cost of Materials Used		Total Payroll	Fuel and Electricity	Cost of Materials Used	Cost of Materials Used	
Foods and Beverages.....	21.8	2.5	75.7	75.7	100.0	20.8	2.5	76.7	76.7	100.0	22.2	2.5	75.3	75.3	100.0
Tobacco Products.....	6.9	0.5	92.6	92.6	100.0	5.5	0.3	94.2	94.2	100.0	6.1	0.3	93.6	93.6	100.0
Leather.....	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Textile.....	34.8	1.5	63.7	63.7	100.0	23.7	0.8	75.5	75.5	100.0	26.7	0.8	72.5	72.5	100.0
Clothing.....	41.0	0.9	58.1	58.1	100.0	41.1	0.8	58.1	58.1	100.0	43.1	0.9	56.0	56.0	100.0
Wood.....	42.8	3.2	54.0	54.0	100.0	40.6	3.2	56.2	56.2	100.0	40.6	3.1	56.3	56.3	100.0
Furniture and Fixtures.....	29.9	2.1	68.0	68.0	100.0	27.7	1.4	70.9	70.9	100.0	26.7	1.2	72.1	72.1	100.0
Paper and Allied Industries.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Printing, Publishing and Allied Industries.....	59.5	1.7	38.8	38.8	100.0	60.3	1.5	38.2	38.2	100.0	60.3	1.5	38.2	38.2	100.0
Primary Metals.....	47.3	3.4	49.3	49.3	100.0	47.6	4.2	48.2	48.2	100.0	43.3	3.7	53.0	53.0	100.0
Metal Fabricating.....	39.3	2.2	58.5	58.5	100.0	39.2	2.1	58.7	58.7	100.0	42.1	2.2	55.7	55.7	100.0
Machinery.....	38.7	1.0	60.3	60.3	100.0	42.7	1.2	56.1	56.1	100.0	38.5	1.2	60.3	60.3	100.0
Transportation Equipment..	24.9	1.1	74.0	74.0	100.0	27.6	1.3	71.1	71.1	100.0	29.9	1.4	68.7	68.7	100.0
Electrical Products.....	—	—	—	—	—	32.3	2.1	65.6	65.6	100.0	35.5	1.4	63.1	63.1	100.0
Non-Metallic															
Mineral Products.....	37.9	9.4	52.7	52.7	100.0	40.3	11.9	47.8	47.8	100.0	40.0	11.0	49.0	49.0	100.0
Petroleum															
and Coal Products.....	6.7	0.5	92.8	92.8	100.0	6.2	0.7	93.1	93.1	100.0	6.0	0.6	93.4	93.4	100.0
Chemical and Chemical Products.....	25.0	11.4	63.6	63.6	100.0	23.8	13.9	62.3	62.3	100.0	22.7	14.4	62.9	62.9	100.0
Miscellaneous															
Manufacturing.....	40.2	2.5	57.3	57.3	100.0	40.8	2.4	56.8	56.8	100.0	46.1	2.3	51.6	51.6	100.0
Other Major Groups.....	11.0	65.9	23.1	23.1	100.0	10.5	65.5	24.0	24.0	100.0	3.6	89.1	7.3	7.3	100.0
Total, All Groups.....	22.6	3.8	73.6	73.6	100.0	22.0	4.5	73.5	73.5	100.0	23.0	4.6	72.4	72.4	100.0

(cont'd next page)

PERCENTAGE DISTRIBUTION OF TOTAL SELECTED PRODUCTION COST, INDUSTRIAL GROUPS,
LAKE ST. CLAIR REGION, 1957 TO 1962 (CONT'D)

	1960					1961					1962				
	Cost of		Total		Total Payroll	Cost of		Total		Total Payroll	Cost of		Total		Total Payroll
	Fuel and Electricity	Materials Used	Selected Production Cost	Cost of Materials Used		Fuel and Electricity	Cost of Materials Used	Selected Production Cost	Cost of Materials Used		Fuel and Electricity	Cost of Materials Used	Selected Production Cost	Cost of Materials Used	
Foods and Beverages.....	21.2	2.2	76.5	100.0	20.9	2.3	76.8	100.0	21.7	2.3	76.0	100.0	21.7	2.3	76.0
Tobacco Products.....	6.1	0.2	93.7	100.0	6.1	0.3	93.6	100.0	7.1	0.3	92.6	100.0	7.1	0.3	92.6
Leather.....	35.5	4.1	60.4	100.0	31.4	—	68.6	100.0	—	—	—	—	—	—	—
Textile.....	23.2	0.6	76.2	100.0	17.4	0.6	82.0	100.0	16.5	0.6	82.9	100.0	16.5	0.6	82.9
Clothing.....	43.4	0.8	55.8	100.0	36.1	0.7	63.2	100.0	34.7	0.6	64.7	100.0	34.7	0.6	64.7
Wood.....	42.2	3.2	54.6	100.0	43.4	2.8	53.8	100.0	41.5	2.4	56.1	100.0	41.5	2.4	56.1
Furniture and Fixtures.....	29.3	1.3	69.4	100.0	29.2	1.5	69.3	100.0	27.0	1.8	71.2	100.0	27.0	1.8	71.2
Paper and Allied Industries.	35.5	2.1	62.4	100.0	29.7	1.3	69.0	100.0	—	—	—	—	—	—	—
Printing, Publishing and Allied Industries.....	61.0	1.5	37.5	100.0	60.4	1.4	38.2	100.0	58.5	1.5	40.0	100.0	58.5	1.5	40.0
Primary Metals	44.9	4.2	50.9	100.0	46.8	4.5	48.7	100.0	43.3	4.1	52.6	100.0	43.3	4.1	52.6
Metal Fabricating.....	41.9	2.4	55.7	100.0	40.3	2.3	57.4	100.0	39.4	2.3	58.3	100.0	39.4	2.3	58.3
Machinery.....	36.8	1.2	62.0	100.0	35.4	1.2	63.4	100.0	29.8	0.9	69.3	100.0	29.8	0.9	69.3
Transportation Equipment ..	26.9	1.3	71.8	100.0	28.4	1.4	70.2	100.0	26.3	1.3	72.4	100.0	26.3	1.3	72.4
Electrical Products.....	37.7	1.4	60.9	100.0	34.2	1.4	64.4	100.0	29.4	1.0	69.6	100.0	29.4	1.0	69.6
Non-Metallic Mineral Products.....	42.4	9.3	48.3	100.0	43.0	8.7	48.3	100.0	42.3	7.6	50.1	100.0	42.3	7.6	50.1
Petroleum and Coal Products.....	6.3	0.6	93.1	100.0	6.1	0.6	93.3	100.0	5.7	0.6	93.7	100.0	5.7	0.6	93.7
Chemical and Chemical Products.....	24.1	15.2	60.7	100.0	25.0	13.8	61.2	100.0	27.6	13.2	59.2	100.0	27.6	13.2	59.2
Miscellaneous Manufacturing.....	47.9	2.4	49.7	100.0	45.4	2.2	52.4	100.0	39.1	2.2	58.7	100.0	39.1	2.2	58.7
Other Major Groups.....	14.8	57.0	28.2	100.0	39.9	2.9	57.2	100.0	30.4	2.0	67.6	100.0	30.4	2.0	67.6
Total, All Groups	22.4	4.4	73.2	100.0	22.8	3.3	73.9	100.0	22.5	3.1	74.4	100.0	22.5	3.1	74.4

**SELECTED PRODUCTION COST AS A PERCENTAGE OF
SELLING VALUE, LAKE ST. CLAIR REGION,
MANUFACTURING INDUSTRIAL GROUPS**

	1957	1958	1959	1960	1961	1962
Foods and Beverages	68.6	70.5	63.5	64.8	65.8	68.4
Tobacco Products	95.3	95.5	95.1	96.6	74.2	86.6
Leather	—	—	—	—	84.6	52.9
Textile	81.8	90.6	78.2	84.8	84.7	81.7
Clothing	79.7	80.0	76.9	78.2	85.0	86.6
Wood	80.5	82.3	81.9	79.2	76.2	76.2
Furniture and Fixtures	85.8	82.9	85.9	80.8	81.4	78.0
Paper and Allied Industries	—	—	—	65.4	82.5	—
Printing, Publishing and Allied Industries	68.6	67.5	67.0	67.5	66.7	66.8
Primary Metals	83.1	76.9	78.2	79.3	79.6	83.5
Metal Fabricating	76.6	76.3	75.7	74.7	81.6	80.9
Machinery	69.0	62.6	66.4	69.7	68.2	80.5
Transportation Equipment	87.6	88.4	86.2	86.6	88.8	87.9
Electrical Products	—	82.7	68.1	84.9	74.1	83.1
Non-Metallic Mineral Products	65.4	67.2	67.4	70.5	73.5	68.9
Petroleum and Coal Products	88.7	89.8	89.5	82.5	79.3	83.6
Chemical and Chemical Products	66.5	68.9	70.6	70.5	64.1	63.8
Miscellaneous Manufacturing	72.3	72.8	69.1	67.4	74.1	72.8
Other Major Groups	21.3	22.8	92.3	96.4	85.8	84.7
Total, All Groups	76.4	76.7	78.8	78.1	76.2	77.9
Total, Ontario	77.4	77.9	77.6	76.9	76.7	78.7

VALUE OF FACTORY SHIPMENTS, LAKE ST. CLAIR REGION AND ONTARIO BY INDUSTRIAL GROUPS, 1957, 1958 AND 1959									
Industrial Group	1957			1958			1959		
	Region	% of		Region	% of		Region	% of	
		Ontario	Ontario		Ontario	Ontario		Ontario	Ontario
	— — — \$000's	— — —	— — —	— — — \$000's	— — —	— — —	— — — \$000's	— — —	— — —
Foods and Beverages	173,662	1,702,345	10.2	194,735	1,834,699	10.6	208,039	1,916,303	10.9
Tobacco Products	20,315	80,470	25.2	38,664	131,051	29.5	38,651	140,446	27.5
Leather		115,522			122,463			134,369	—
Textile	3,739	299,691	1.2	1,850	283,565	0.7	2,020	312,251	0.6
Clothing	1,998	195,638	1.0	1,996	192,704	1.0	2,005	194,072	1.0
Wood	4,045	171,863	2.4	4,076	166,791	2.4	4,031	181,696	2.2
Furniture and Fixtures	2,285	153,502	1.5	2,268	152,511	1.5	2,719	162,194	1.7
Paper and Allied Industries		696,743			714,731			739,275	
Printing, Publishing and Allied Industries	10,380	367,565	0.1	10,833	393,051	0.1	11,617	424,632	0.1
Primary Metals	15,110	1,518,512	1.0	13,205	1,208,816	1.1	16,619	1,557,777	1.1
Metal Fabricating	74,534	742,603	10.0	66,392	731,944	9.1	67,075	789,071	8.5
Machinery	18,903	422,998	4.5	14,338	413,041	3.5	14,889	470,867	3.2
Transportation Equipment	407,675	1,635,788	24.9	299,106	1,501,590	19.9	331,801	1,471,107	22.6
Electrical Products		832,183		2,720	761,961	0.4	6,567	800,307	0.8
Non-Metallic Mineral Products	35,779	288,186	12.4	31,414	298,869	10.5	35,267	324,171	10.9
Petroleum and Coal Products	200,934	292,319	68.7	205,134	315,488	65.0	217,313	354,744	61.3
Chemical and Chemical Products	153,570	671,525	22.9	158,881	732,216	21.7	156,391	770,887	20.3
Miscellaneous Manufacturing	7,611	270,338	2.8	7,726	289,166	2.7	8,856	321,696	2.8
Other Major Groups	74,237	353,326	21.0	73,448	334,859	21.9	14,374	372,500	3.9
Total, All Groups	1,204,777	10,811,118	11.1	1,126,788	10,579,486	10.6	1,138,237	11,438,365	10.0

VALUE OF FACTORY SHIPMENTS, ST. CLAIR REGION
AND ONTARIO BY INDUSTRIAL GROUPS, 1960, 1961 AND 1962

	1960			1961			1962		
	Region	Ontario	% of	Region	Ontario	% of	Region	Ontario	% of
			Ontario			Ontario			Ontario
	-----\$000's-----			-----\$000's-----			-----\$000's-----		
Industrial Group									
Foods and Beverages.....	224,058	1,954,959	11.5	221,903	2,034,876	10.9	242,170	2,435,612	9.9
Tobacco Products.....	43,807	147,814	29.6	49,217	141,471	34.8	33,199	148,620	22.3
Leather.....	13	126,035	—	13	141,458	—	17	156,371	—
Textile.....	2,260	310,594	0.7	2,390	331,650	0.7	2,312	395,662	0.6
Clothing.....	1,868	192,831	1.0	1,856	197,108	0.9	2,115	216,130	1.0
Wood.....	3,872	167,309	2.3	3,162	177,380	1.8	4,002	215,334	1.9
Furniture and Fixtures.....	2,728	164,812	1.7	2,646	174,258	1.5	3,216	192,240	1.7
Paper and Allied Industries.....	1,019	769,287	0.1	1,188	787,842	0.2	—	861,713	—
Printing, Publishing and Allied Industries	11,790	439,109	2.7	12,123	455,059	2.7	12,600	509,593	2.5
Primary Metals.....	13,871	1,520,197	0.9	13,100	1,624,729	0.8	13,923	1,699,758	0.8
Metal Fabricating.....	65,787	816,298	8.1	61,948	864,992	7.2	73,792	1,100,155	6.7
Machinery.....	15,309	476,815	3.2	16,746	485,330	3.5	18,359	746,771	2.5
Transportation Equipment.....	346,363	1,456,230	23.8	308,286	1,414,270	21.8	347,849	2,092,655	16.6
Electrical Products.....	2,442	778,465	0.3	3,025	830,790	0.4	3,538	1,085,732	0.3
Non-Metallic Mineral Products.....	30,162	316,336	9.5	27,090	324,617	8.3	33,774	421,117	8.0
Petroleum and Coal Products.....	225,343	354,217	63.6	238,484	386,442	61.7	253,454	421,810	60.1
Chemical and Chemical Products.....	177,100	812,531	21.8	195,630	861,064	22.7	204,199	1,072,777	19.0
Miscellaneous Manufacturing.....	9,371	335,034	2.8	9,871	381,389	2.6	8,740	534,041	1.6
Other Major Groups.....	18,161	340,453	5.3	204	342,604	—	1,448	394,942	0.4
Total, All Groups.....	1,195,326	11,479,327	10.4	1,168,880	11,957,330	9.8	1,258,706	13,342,557	9.4

MANUFACTURING

MANUFACTURING

LABOUR FORCE OF INDUSTRIAL GROUPS BY SEX, LAKE ST. CLAIR REGION, 1957 TO 1962

	Foods and Beverages	Tobacco Products	Leather	Textile	Clothing
1957					
Total	7,888 (100.0)	448 (100.0)	—	343 (100.0)	295 (100.0)
Male	5,792 (73.4)	259 (57.8)	—	186 (54.2)	57 (19.3)
Female	2,096 (26.6)	189 (42.2)	—	157 (45.8)	238 (80.7)
1958					
Total	8,223 (100.0)	764 (100.0)	—	157 (100.0)	278 (100.0)
Male	6,004 (73.0)	407 (53.3)	—	78 (49.7)	59 (21.2)
Female	2,219 (27.0)	357 (46.7)	—	79 (50.3)	219 (78.8)
1959					
Total	7,917 (100.0)	863 (100.0)	—	155 (100.0)	277 (100.0)
Male	5,856 (74.0)	507 (58.7)	—	75 (48.4)	41 (14.8)
Female	2,061 (26.0)	356 (41.3)	—	80 (51.6)	236 (85.2)
1960					
Total	8,175 (100.0)	850 (100.0)	3 (100.0)	161 (100.0)	262 (100.0)
Male	5,920 (72.4)	523 (61.5)	3 (100.0)	74 (46.0)	46 (17.6)
Female	2,255 (27.6)	327 (38.5)	— (—)	87 (54.0)	216 (82.4)
1961					
Total	7,756 (100.0)	659 (100.0)	3 (100.0)	130 (100.0)	265 (100.0)
Male	5,596 (72.2)	486 (73.7)	3 (100.0)	50 (38.5)	35 (13.2)
Female	2,160 (27.8)	173 (26.3)	— (—)	80 (61.5)	230 (86.8)
1962					
Total	8,742 (100.0)	740 (100.0)	—	123 (100.0)	278 (100.0)
Male	6,338 (72.5)	554 (74.9)	—	40 (32.5)	35 (12.6)
Female	2,404 (27.5)	186 (25.1)	—	83 (67.5)	243 (87.4)

MANUFACTURING

Wood	Furniture and Fixtures	Paper and Allied Industries	Printing, Publishing, and Allied Industries	Primary Metals	Metal Fabricating
522	197	—	1,121	1,591	5,328
(100.0)	(100.0)	—	(100.0)	(100.0)	(100.0)
487	170	—	850	1,492	4,826
(93.3)	(86.3)	—	(75.8)	(93.8)	(90.6)
35	27	—	271	99	502
(6.7)	(13.7)	—	(24.2)	(6.2)	(9.4)
484	169	—	1,146	1,284	4,604
(100.0)	(100.0)	—	(100.0)	(100.0)	(100.0)
456	143	—	831	1,213	4,096
(94.2)	(84.6)	—	(72.5)	(94.5)	(89.0)
28	26	—	315	71	508
(5.8)	(15.4)	—	(27.5)	(5.5)	(11.0)
463	183	—	1,135	1,329	4,695
(100.0)	(100.0)	—	(100.0)	(100.0)	(100.0)
435	150	—	825	1,276	4,245
(94.0)	(82.0)	—	(72.7)	(96.0)	(90.4)
28	33	—	310	53	450
(6.0)	(18.0)	—	(27.3)	(4.0)	(9.6)
419	191	70	1,133	1,204	4,505
(100.0)	(100.0)	(100.0)	(100.0)	(100.0)	(100.0)
396	159	42	824	1,144	4,069
(94.5)	(83.2)	(60.0)	(72.7)	(95.0)	(90.3)
23	32	28	309	60	436
(5.5)	(16.8)	(40.0)	(27.3)	(5.0)	(9.7)
351	187	90	1,122	1,115	4,280
(100.0)	(100.0)	(100.0)	(100.0)	(100.0)	(100.0)
317	155	65	821	1,048	3,867
(90.3)	(82.9)	(72.2)	(73.2)	(94.0)	(90.4)
34	32	25	301	67	413
(9.7)	(17.1)	(27.8)	(26.8)	(6.0)	(9.6)
415	194	—	1,072	1,093	4,802
(100.0)	(100.0)	—	(100.0)	(100.0)	(100.0)
376	148	—	790	1,035	4,310
(90.6)	(76.3)	—	(73.7)	(94.7)	(89.8)
39	46	—	282	58	492
(9.4)	(23.7)	—	(26.3)	(5.3)	(10.2)

(cont'd next page)

MANUFACTURING

**LABOUR FORCE OF INDUSTRIAL GROUPS BY SEX,
LAKE ST. CLAIR REGION, 1957 TO 1962 (CONT'D)**

	Machinery	Transportation Equipment	Electrical Products	Non-Metallic Mineral Products
1957				
Total	1,185 (100.0)	20,868 (100.0)	—	2,383 (100.0)
Male	911 (76.9)	18,906 (90.6)	—	2,230 (93.6)
Female	274 (23.1)	1,962 (9.4)	—	153 (6.4)
1958				
Total	889 (100.0)	14,902 (100.0)	190 (100.0)	2,207 (100.0)
Male	683 (76.8)	13,443 (90.2)	143 (75.3)	2,056 (93.2)
Female	206 (23.2)	1,459 (9.8)	47 (24.7)	151 (6.8)
1959				
Total	887 (100.0)	16,266 (100.0)	403 (100.0)	2,294 (100.0)
Male	699 (78.8)	14,701 (90.4)	285 (70.7)	2,147 (93.6)
Female	188 (21.2)	1,565 (9.6)	118 (29.3)	147 (6.4)
1960				
Total	839 (100.0)	15,005 (100.0)	186 (100.0)	2,198 (100.0)
Male	654 (77.9)	13,764 (91.7)	160 (86.0)	2,045 (93.0)
Female	185 (22.1)	1,241 (8.3)	26 (14.0)	153 (7.0)
1961				
Total	847 (100.0)	14,184 (100.0)	212 (100.0)	1,987 (100.0)
Male	650 (76.7)	12,955 (91.3)	163 (76.9)	1,836 (92.4)
Female	197 (23.3)	1,229 (8.7)	49 (23.1)	151 (7.6)
1962				
Total	974 (100.0)	13,840 (100.0)	198 (100.0)	2,203 (100.0)
Male	780 (80.1)	12,712 (91.8)	157 (79.3)	2,036 (92.4)
Female	194 (19.9)	1,128 (8.2)	41 (20.7)	167 (7.6)

MANUFACTURING

Petroleum and Coal Products	Chemical and Chemical Products	Miscellaneous Manufacturing	Other Major Groups	Total, All Groups	Total, Ontario
2,276 (100.0)	5,319 (100.0)	599 (100.0)	430 (100.0)	50,793 (100.0)	636,162
2,146 (94.3)	4,521 (85.0)	460 (76.8)	325 (75.6)	43,618 (85.9)	
130 (5.7)	798 (15.0)	139 (23.2)	105 (24.4)	7,175 (14.1)	
2,075 (100.0)	5,113 (100.0)	602 (100.0)	467 (100.0)	43,554 (100.0)	599,969
1,947 (93.8)	4,571 (89.4)	458 (76.1)	265 (56.7)	36,853 (84.6)	
128 (6.2)	542 (10.6)	144 (23.9)	202 (43.3)	6,701 (15.4)	
1,940 (100.0)	4,700 (100.0)	673 (100.0)	136 (100.0)	44,316 (100.0)	608,802
1,819 (93.8)	4,120 (87.7)	513 (76.2)	94 (69.1)	37,788 (85.3)	
121 (6.2)	580 (12.3)	160 (23.8)	42 (30.9)	6,528 (14.7)	
1,968 (100.0)	5,388 (100.0)	723 (100.0)	518 (100.0)	43,798 (100.0)	594,319
1,849 (94.0)	4,820 (89.5)	565 (78.1)	343 (66.2)	37,400 (85.4)	
119 (6.0)	568 (10.5)	158 (21.9)	175 (33.8)	6,398 (14.6)	
1,916 (100.0)	5,415 (100.0)	775 (100.0)	20 (100.0)	41,314 (100.0)	591,415
1,809 (94.4)	4,901 (90.5)	612 (79.0)	11 (55.0)	35,380 (85.6)	
107 (5.6)	514 (9.5)	163 (21.0)	9 (45.0)	5,934 (14.4)	
1,894 (100.0)	5,937 (100.0)	637 (100.0)	109 (100.0)	43,251 (100.0)	455,872
1,792 (94.6)	5,325 (89.7)	444 (69.7)	78 (71.6)	36,950 (85.4)	
102 (5.4)	612 (10.3)	193 (30.3)	31 (28.4)	6,301 (14.6)	

TRANSPORTATION AND COMMUNICATIONS

CARGOES LOADED AND UNLOADED AT SPECIFIED PORTS,
LAKE ST. CLAIR REGION, 1963 AND 1964

	1963		
	Cargoes	Cargoes	Total
	Loaded	Unloaded	
— — — — — Cargo Tons — — — — —			
Essex County			
Amherstburg			
Chemical n.e.s.	5,000		5,000
Kingsville			
Fish, Fresh or Frozen		4	4
Gasoline	703		703
Fuel Oil	674		674
Lubricating Oil, Grease	103		103
General Cargo	396	231	627
Total	1,876	235	2,111
Leamington			
Wheat Flour		30	30
Cereals Milled n.e.s.		30	30
Vegetables Fresh, Frozen n.e.s.	44		44
Food Preparations n.e.s.	42,066	413	42,479
Tobacco	1,009	58	1,067
Newsprint Paper		48	48
Gasoline	17		17
Lubricating Oil, Grease	19		19
Asphalt		37	37
Metal Fab. Products n.e.s.		44	44
Containers, Empty		240	240
Containers n.e.s.		360	360
General Cargo	1,948	1,080	3,028
Total	45,103	2,340	47,443
Pelee Island			
Fish, Fresh or Frozen	3		3
Wheat	1,650		1,650
Soybeans	3,150		3,150
Sand and Gravel		1,137	1,137
Gasoline	17	703	720
Fuel Oil	38	720	758
Lubricating Oil, Grease		38	38
General Cargo	673	1,412	2,085
Total	5,531	4,010	9,541
Point Pelee			
Sand and Gravel	13,105		13,105
Walkerville			
Barley		4,169	4,169
Corn	5,071		5,071
Rye	3,714		3,714
Wheat		46,963	46,963
Malt		879	879
Soybeans	7,669		7,669
Dolomite		2,246	2,246
Gasoline		75,146	75,146
Fuel Oil		25,655	25,655
Total	16,454	155,058	171,512

TRANSPORTATION AND COMMUNICATIONS

	1964		
	Cargoes	Cargoes	Total
	Loaded	Unloaded	
	— — — —	— Cargo Tons —	— — — —
Essex County			
Amherstburg			
Chemical n.e.s.	41,568		41,568
General Cargo	90		90
Total	41,658		41,658
Kingsville			
Chemical n.e.s.	2		2
Gasoline	790		790
Fuel Oil	857		857
Cement	6		6
General Cargo	690	412	1,102
Total	2,345	412	2,757
Leamington			
Food Preparations n.e.s.	362		362
Tobacco	60		60
Lumber and timber		21	21
Veneer and Plywood		1	1
Newsprint Paper		43	43
Containers n.e.s.	15		15
General Cargo	2,401	1,922	4,323
Total	2,838	1,987	4,825
Pelee Island			
Wheat	2,500		2,500
Soybeans	3,575		3,575
Dolomite		2,552	2,552
Chemical n.e.s.		2	2
Gasoline		790	790
Fuel Oil		857	857
Cement		6	6
General Cargo	643	1,495	2,138
Total	6,718	5,702	12,420
Point Pelee			
Sand and Gravel	15,374		15,374
Walkerville			
Corn	7,700		7,700
Wheat	18,196	14,856	33,052
Malt		3,950	3,950
Soybeans	3,540		3,540
Dolomite		27,338	27,338
Sand and Gravel		5,451	5,451
Limestone		3,660	3,660
Crushed Stone	1,922		1,922
Gasoline		72,125	72,125
Fuel Oil		33,058	33,058
Total	31,358	160,438	191,796

(cont'd next page)

TRANSPORTATION AND COMMUNICATIONS

CARGOES LOADED AND UNLOADED AT SPECIFIED PORTS, LAKE ST. CLAIR REGION, 1963 AND 1964 (CONT'D)

	1963		
	Cargoes Loaded	Cargoes Unloaded	Total
	— — — — —	Cargo Tons — — — — —	— — — — —
Windsor			
Dairy Produce, Eggs, n.e.s.	17		17
Cereals Unmilled n.e.s.		11	11
Malt	60		60
Wheat Flour	576		576
Vegetables Fresh, Frozen n.e.s.	64		64
Vegetable Preparations, n.e.s.		15	15
Sugar		930	930
Spices		8	8
Food Preparations, n.e.s.	22,814	1,816	24,630
Wines		19	19
Distilled Alcoholic Bev.	4,497	529	5,026
Crude Veg. Material, n.e.s.		127	127
Textile Fibres, n.e.s.		30	30
Metallic Ores and Conc. n.e.s.	23		23
Asbestos Unmilled		16	16
Dolomite		46,322	46,322
Limestone		9,635	9,635
Salt	99,119		99,119
Lumber and Timber		30	30
Sawmill Products, n.e.s.		110	110
Veneer and Plywood		20	20
Wood Fab. Materials, n.e.s.		197	197
Paper n.e.s.	6	43	49
Paper, Paperboard n.e.s.		68	68
Sacking Materials		2,315	2,315
Textile Fab. Materials, n.e.s.		12	12
Fish, Marine Animal Oil		12	12
Chemicals, n.e.s.	37,507	14	37,521
Chemical Products, n.e.s.	59		59
Gasoline		108,894	108,894
Fuel Oil		87,409	87,409
Lubricating Oil, Grease	7	135	142
Ferro-Alloys	90		90
Iron, Steel, Ingot Slab	166	21,017	21,183
Steel Bar and Rod		2,509	2,509
Steel Plate and Sheet	322	46,805	47,127
Structural Shapes	387	10,951	11,338
Rails, Track Material		215	215
Iron Steel Pipes n.e.s.	10	4	14
Iron and Steel n.e.s.	141		141
Metal Fab. Prods. n.e.s.	133	104	237
Plate and Sheet Glass	4	297	301
Misc. Fab. Materials, n.e.s.	36	21	57
Machinery	7	5,312	5,319
Autos and Chassis	1,891		1,891
Trucks and Chassis		20	20
Motor Veh. Parts, n.e.s.	371		371
Motor Vehicles n.e.s.	7		7
Misc. Veh. and Parts, n.e.s.	22	1	23
Misc. Equipment, n.e.s.	1		1
Household Goods, n.e.s.	33	14	47
Containers Empty	25	378	403

TRANSPORTATION AND COMMUNICATIONS

	1964		
	Cargoes	Cargoes	Total
	Loaded	Unloaded	
	— — — — —	Cargo Tons — — — — —	
Windsor (cont'd)			
Wheat Flour.....	35		35
Apples.....	1		1
Fruits, Dried, Preserved.....		15	15
Fruit Preparations, n.e.s.....		2	2
Nuts, n.e.s.....		20	20
Veg. Fresh, Frozen, n.e.s.....	234		234
Veg. Preparations, n.e.s.....		579	579
Sugar.....	17	1,054	1,071
Food Preparations, n.e.s.....	72,453	4,290	76,743
Grain Feeds n.e.s.....	47		47
Wines.....		23	23
Distilled Alcoholic Bev.....	6,542		6,542
Tobacco.....	741	299	1,040
Crude Veg. Material, n.e.s.....		12	12
Textile Fibres, n.e.s.....		75	75
Dolomite.....		43,718	43,718
Sand and Gravel.....		1,885	1,885
Salt.....	94,937		94,937
Waste and Scrap, n.e.s.....		5,000	5,000
Lumber and Timber.....	45	821	866
Wood Fab. Materials, n.e.s.....	1		1
Newsprint Paper.....		1,317	1,317
Paper n.e.s.....		577	577
Paperboard.....		34	34
Sacking Materials.....		2,207	2,207
Textile Fab. Materials, n.e.s.....		152	152
Fish, Marine Animal Oil.....		13	13
Chemicals, n.e.s.....	36,082	31	36,113
Chemical Products, n.e.s.....	484	22	506
Gasoline.....		124,976	124,976
Fuel Oil.....		97,387	97,387
Lubricating Oil, Grease.....	145	192	337
Ferro-Alloys.....	56		56
Iron, Steel, Ingot Slab.....	5	25,262	25,267
Steel Bar and Rod.....	1,171	2,996	4,167
Steel Plate and Sheet.....	111	57,224	57,335
Structural Shapes.....	1,029	16,334	17,363
Iron Steel Pipes.....		20	20
Iron and Steel n.e.s.....	487		487
Non-Ferrous Metals, n.e.s.....	50		50
Metal Fab. Prods., n.e.s.....		227	227
Plate and Sheet Glass.....	13	50	63
Non-Metallic Min. Prods., n.e.s.....		10	10
Misc. Fab. Materials, n.e.s.....	29	21	50
Machinery.....	714	6,814	7,528
Railway Rolling Stock.....	36		36
Autos and Chassis.....	2,379		2,379
Trucks and Chassis.....	114	4	118
Motor Veh. and Parts, n.e.s.....	1,904	151	2,055
Misc. Veh. and Parts, n.e.s.....	2,485		2,485
Misc. Equipment, n.e.s.....	161	7	168
Household Goods, n.e.s.....	106	62	168

(cont'd next page)

TRANSPORTATION AND COMMUNICATIONS

CARGOES LOADED AND UNLOADED AT SPECIFIED PORTS, LAKE ST. CLAIR REGION, 1963 AND 1964 (CONT'D)			
	1963		
	Cargoes Loaded	Cargoes Unloaded	Total
	— — — —	— Cargo Tons —	— — — —
Essex County (cont'd)			
Windsor (cont'd)			
Containers, n.e.s.....		340	340
General Cargo.....	5,252	802	6,054
Total	173,647	347,507	521,154
Total, Essex County.....	260,716	509,150	769,866
Kent County			
Erieau			
Dolomite.....		1,900	1,900
Wallaceburg			
Wheat.....	21,545		21,545
Molasses Crude.....	2,470		2,470
Molasses and Syrup, n.e.s.....	2,750		2,750
Soybeans.....	13,706		13,706
Dolomite.....		9,981	9,981
Total	40,471	9,981	50,452
Total, Kent County.....	40,471	11,881	52,352
Lambton County			
Courtright			
Dolomite.....		2,648	2,648
Sarnia			
Barley.....		11,789	11,789
Oats.....		6,376	6,736
Rye.....		839	839
Wheat.....	63,630	88,245	151,875
Wheat Flour.....		40,458	40,458
Food Preparations, n.e.s.....		695	695
Grain Feeds, n.e.s.....		28,125	28,125
Soybeans.....	21,361		21,361
Dolomite.....		1,069	1,069
Salt.....	12,600		12,600
Glycol.....	12,950		12,950
Chemical n.e.s.....	33,438	37,653	71,091
Gasoline.....	600,255		600,255
Fuel Oil.....	1,212,947	31,063	1,244,010
Lubricating Oil, Grease.....	31,821	98,655	130,476
Coke.....	2,000		2,000
Asphalt.....	1,582		1,582
Petrol. Coal Prods. n.e.s.....	2,100		2,100
Structural Shapes.....		27	27
Containers Empty.....		89	89
General Cargo.....	36,761	10,122	46,883
Total	2,031,445	355,205	2,386,650
Total, Lambton County.....	2,031,445	357,853	2,389,298
Total, Region.....	2,332,632	878,884	3,211,516

TRANSPORTATION AND COMMUNICATIONS

	1964		
	Cargoes Loaded	Cargoes Unloaded	Total
	— Cargo Tons —		
Essex County (cont'd)			
Windsor (cont'd)			
Containers Empty	207	492	699
Containers, n.e.s.	371	938	1,309
Misc. Products, n.e.s.	2	33	35
General Cargo	17,694	6,896	24,590
Total	240,888	402,242	643,130
Total, Essex County	341,179	570,781	911,960
Kent County			
Wallaceburg			
Corn	9,102		9,102
Wheat	32,394		32,394
Soybeans	3,510		3,510
Dolomite		23,109	23,109
Total	45,006	23,109	68,115
Total, Kent County	45,006	23,109	68,115
Lambton County			
Sarnia			
Barley		8,433	8,433
Oats		6,973	6,973
Rye		8,160	8,160
Wheat	44,847	150,266	195,113
Wheat Flour		49,330	49,330
Grain Feeds, n.e.s.		36,639	36,639
Soybeans	22,244		22,244
Sand and Gravel		4,710	4,710
Salt	9,625		9,625
Lumber and Timber	51	45	96
Railway Ties		253	253
Newsprint Paper	500		500
Glycol	7,701		7,701
Chemical n.e.s.	55,186	37,335	92,521
Synthetic Rubber	345		345
Chemical Products, n.e.s.	2,700	3,126	5,826
Gasoline	605,503	8,060	613,563
Fuel Oil	1,271,362	15,734	1,287,096
Lubricating Oil, Grease	13,855	128,732	142,587
Tar, Pitch and Creosote		756	756
Pig Iron		2,247	2,247
Autos and Chassis		12	12
Containers Empty		268	268
Misc. Products, n.e.s.		2	2
General Cargo	67,965	9,890	77,855
Total	2,101,884	470,971	2,572,855
Total, Lambton County	2,101,884	470,971	2,572,855
Total, Region	2,488,069	1,064,861	3,552,930

TRANSPORTATION AND COMMUNICATIONS

NUMBER AND REGISTERED NET TONNAGE OF VESSELS, ARRIVALS AND DEPARTURES, PORTS, LAKE ST. CLAIR REGION, 1962 TO 1964							
Port	Year	Coastwise Shipping					
		Arrived		Departed		Total	
		No.	Registered Net Tons	No.	Registered Net Tons	No.	Registered Net Tons
Essex County							
Amherstburg .	1962	25	5,087	37	10,161	62	15,248
	1963	26	5,674	30	7,204	56	12,878
	1964	24	28,062	22	27,609	46	55,671
Kingsville	1962	203	25,504	202	25,412	405	50,916
	1963	238	31,819	242	34,576	480	66,395
	1964	283	40,805	285	42,739	568	83,544
Leamington . .	1962	614	421,133	620	442,874	1,234	864,007
	1963	536	408,561	541	432,261	1,077	840,822
	1964	418	101,871	424	110,471	842	212,342
Pelee Island . .	1962	694	87,577	694	87,577	1,388	175,154
	1963	644	88,075	645	88,280	1,289	176,355
	1964	680	87,984	679	86,151	1,359	174,135
Point Pelee . . .	1962	8	5,200	7	4,550	15	9,750
	1963	7	4,550	7	4,550	14	9,100
	1964	9	5,211	9	5,211	18	10,422
Walkerville . . .	1962	60	90,316	62	102,844	122	193,160
	1963	46	79,381	49	88,427	95	167,808
	1964	60	97,079	69	128,608	129	225,687
Windsor	1962	121	277,331	221	519,220	342	796,551
	1963	272	716,530	330	899,785	602	1,616,315
	1964	410	1,036,502	405	1,106,093	815	2,142,595
Total, Essex	1962	1,725	912,148	1,843	1,192,638	3,568	2,104,786
	1963	1,769	1,334,590	1,844	1,555,083	3,613	2,889,673
	1964	1,884	1,397,514	1,893	1,506,882	3,777	2,904,396
Kent County							
Chatham	1962	3	202	5	364	8	566
	1963	2	162	2	162	4	324
	1964						
Erieau	1962	21	3,486	19	3,551	40	7,037
	1963	8	1,364	12	7,153	20	8,517
	1964	1	11	5	2,187	6	2,198
Wallaceburg . .	1962	12	16,923	12	15,192	24	32,115
	1963	16	23,692	14	20,182	30	43,874
	1964	21	29,231	17	23,065	38	52,296
Total, Kent	1962	36	20,611	36	19,107	72	39,718
	1963	26	25,218	28	27,497	54	52,715
	1964	22	29,242	22	25,252	44	54,494

TRANSPORTATION AND COMMUNICATIONS

		International Sea Borne					
Port	Year	Arrived		Departed		Total	
		No.	Registered	No.	Registered	No.	Registered
			Net Tons		Net Tons		Net Tons
Essex County							
Amherstburg .	1962	101	175,962	96	170,803	197	346,765
	1963	47	168,422	45	166,537	92	334,959
	1964	49	165,354	54	162,837	103	328,191
Kingsville	1962	23	34,090	23	33,826	46	67,916
	1963	21	35,216	20	33,588	41	68,804
	1964	17	31,695	16	29,862	33	61,557
Leamington . .	1962	20	46,478	13	23,433	33	69,911
	1963	14	41,714	7	17,857	21	59,571
	1964	8	15,081	6	7,811	14	22,892
Pelee Island . .	1962	183	37,515	183	37,515	366	75,030
	1963	149	32,111	149	32,111	298	64,222
	1964	111	26,011	112	27,844	223	53,855
Point Pelee . . .	1962	190	115,474	191	116,124	381	231,598
	1963	165	116,576	165	116,576	330	233,152
	1964	208	157,006	208	157,006	416	314,012
Walkerville . . .	1962	51	162,930	48	149,156	99	312,086
	1963	118	193,051	114	176,004	232	369,055
	1964	42	165,279	35	148,088	77	313,367
Windsor	1962	2,096	1,061,971	2,062	940,421	4,158	2,002,392
	1963	1,630	1,251,705	1,595	1,065,827	3,225	2,317,532
	1964	1,598	1,202,054	1,589	1,101,364	3,187	2,303,418
Total, Essex	1962	2,664	1,634,420	2,616	1,471,278	5,280	3,105,698
	1963	2,144	1,838,795	2,095	1,608,500	4,239	3,447,295
	1964	2,033	1,762,480	2,020	1,634,812	4,053	3,397,292
Kent County							
Chatham	1962						
	1963						
	1964						
Erieau	1962	47	82,632	46	80,669	93	163,301
	1963	63	66,534	58	60,979	121	127,513
	1964	60	120,305	60	120,305	120	240,610
Wallaceburg . .	1962	17	20,504	19	22,242	36	42,746
	1963	3	4,719	5	8,229	8	12,948
	1964	7	11,657	11	17,823	18	29,480
Total, Kent	1962	64	103,136	65	102,911	129	206,047
	1963	66	71,253	63	69,208	129	140,461
	1964	67	131,962	71	138,128	138	270,090

(cont'd next page)

TRANSPORTATION AND COMMUNICATIONS

NUMBER AND REGISTERED NET TONNAGE OF VESSELS,
ARRIVALS AND DEPARTURES, PORTS,
LAKE ST. CLAIR REGION, 1962 TO 1964, (CONT'D)

		Total Coastwise and International Shipping					
		Arrived		Departed		Total	
		Registered		Registered		Registered	
Port	Year	No.	Net Tons	No.	Net Tons	No.	Net Tons
Essex County							
Amherstburg .	1962	126	181,049	133	180,964	259	362,013
	1963	73	174,096	75	173,741	148	347,837
	1964	73	193,416	76	190,446	149	383,862
Kingsville. . . .	1962	226	59,594	225	59,238	451	118,832
	1963	259	67,035	262	68,164	521	135,199
	1964	300	72,500	301	72,601	601	145,101
Leamington. . .	1962	634	467,611	633	466,307	1,267	933,918
	1963	550	450,275	548	450,118	1,098	900,393
	1964	426	116,952	430	118,282	856	235,234
Pelee Island. . .	1962	877	125,092	877	125,092	1,754	250,184
	1963	793	120,186	794	120,391	1,587	240,577
	1964	791	113,995	791	113,995	1,582	227,990
Point Pelee. . . .	1962	198	120,674	198	120,674	396	241,348
	1963	172	121,126	172	121,126	344	242,252
	1964	217	162,217	217	162,217	434	324,434
Walkerville. . . .	1962	111	253,246	110	252,000	221	505,246
	1963	164	272,432	163	264,431	327	536,863
	1964	102	262,358	104	276,696	206	539,054
Windsor.	1962	2,217	1,339,302	2,283	1,459,641	4,500	2,798,934
	1963	1,902	1,968,235	1,925	1,965,612	3,827	3,933,847
	1964	2,008	2,238,556	1,994	2,207,457	4,002	4,446,013
Total, Essex.	1962	4,389	2,546,568	4,459	2,663,916	8,848	5,210,484
	1963	3,913	3,173,385	3,939	3,163,583	7,852	6,336,968
	1964	3,917	3,159,994	3,913	3,141,694	7,830	6,301,688
Kent County							
Chatham.	1962	3	202	5	364	8	566
	1963	2	162	2	162	4	324
	1964						
Erieau.	1962	68	86,118	65	84,220	133	170,338
	1963	71	67,898	70	68,132	141	136,030
	1964	61	120,316	65	122,492	126	242,808
Wallaceburg. . .	1962	29	37,427	31	37,434	60	74,861
	1963	19	28,411	19	28,411	38	56,822
	1964	28	40,888	28	40,888	56	81,776
Total, Kent.	1962	100	123,747	101	122,018	201	245,765
	1963	92	96,471	91	96,705	183	193,176
	1964	89	161,204	93	163,380	182	324,584

TRANSPORTATION AND COMMUNICATIONS

NUMBER AND REGISTERED NET TONNAGE OF VESSELS, ARRIVALS AND DEPARTURES, PORTS, LAKE ST. CLAIR REGION, 1962 TO 1964, (CONT'D)

		Coastwise Shipping					
		Arrived		Departed		Total	
		Registered		Registered		Registered	
Port	Year	No.	Net Tons	No.	Net Tons	No.	Net Tons
Lambton County							
Courtright	1962	2	4,939	1	7,262	3	12,201
	1963	1	1,833			1	1,833
	1964			3	9,132	3	9,132
Sarnia	1962	815	1,640,735	811	1,593,312	1,626	3,234,047
	1963	802	1,646,105	805	1,645,736	1,607	3,291,841
	1964	951	1,883,467	955	1,949,652	1,906	3,833,119
Sombra	1962	1	2,011			1	2,011
	1963						
	1964			1	2,860	1	2,860
Total, Lambton	1962	818	1,647,685	812	1,600,574	1,630	3,248,259
	1963	803	1,647,938	805	1,645,736	1,608	3,293,674
	1964	951	1,883,467	959	1,961,644	1,910	3,845,111
Total, Region . . .	1962	2,579	2,580,444	2,691	2,812,319	5,270	5,392,763
	1963	2,598	3,007,746	2,677	3,228,316	5,275	6,236,062
	1964	2,857	3,310,223	2,874	3,493,778	5,731	6,804,001

		International Sea Borne					
		Arrived		Departed		Total	
		Registered		Registered		Registered	
Port	Year	No.	Net Tons	No.	Net Tons	No.	Net Tons
Lambton County							
Courtright	1962	1	7,262	2	4,939	3	12,201
	1963	1	4,102	2	5,935	3	10,037
	1964	6	24,839	3	15,707	9	40,546
Sarnia	1962	353	1,035,868	355	1,067,347	708	2,103,215
	1963	347	1,054,490	343	1,072,983	690	2,127,473
	1964	389	1,232,127	374	1,179,857	763	2,411,984
Sombra	1962	3	12,051	4	14,062	7	26,113
	1963						
	1964	2	4,693	1	1,833	3	6,526
Total, Lambton	1962	357	1,055,181	361	1,086,348	718	2,141,529
	1963	348	1,058,592	345	1,078,918	693	2,137,510
	1964	397	1,261,659	378	1,197,397	775	2,459,056
Total, Region . . .	1962	3,085	2,792,737	3,042	2,660,537	6,127	5,453,274
	1963	2,558	2,968,640	2,503	2,756,626	5,061	5,725,266
	1964	2,497	3,156,101	2,469	2,970,337	4,966	6,126,438

(cont'd next page)

TRANSPORTATION AND COMMUNICATIONS

NUMBER AND REGISTERED NET TONNAGE OF VESSELS,
ARRIVALS AND DEPARTURES, PORTS,
LAKE ST. CLAIR REGION, 1962 TO 1964, (CONT'D)

		Total Coastwise and International Shipping					
		Arrived		Departed		Total	
		Registered		Registered		Registered	
Port	Year	No.	Net Tons	No.	Net Tons	No.	Net Tons
Lambton County							
Courtright. . . .	1962	3	12,201	3	12,201	6	24,402
	1963	2	5,935	2	5,935	4	11,870
	1964	6	24,839	6	24,839	12	49,678
Sarnia.	1962	1,168	2,676,603	1,166	2,660,659	2,334	5,337,262
	1963	1,149	2,700,595	1,152	2,718,719	2,297	5,419,314
	1964	1,340	3,115,594	1,329	3,129,509	2,669	6,245,103
Sombra.	1962	4	14,062	4	14,062	8	28,124
	1963						
	1964	2	4,693	2	4,693	4	9,386
Total, Lambton. . . .	1962	1,175	2,702,866	1,173	2,686,922	2,348	5,389,788
	1963	1,151	2,706,530	1,150	2,724,654	2,301	5,431,184
	1964	1,348	3,145,126	1,337	3,159,041	2,685	6,304,167
Total, Region. . . .	1962	5,664	5,373,181	5,733	5,472,856	11,397	10,846,037
	1963	5,156	5,976,386	5,180	5,984,942	10,336	11,961,328
	1964	5,354	6,466,324	5,343	6,464,115	10,697	12,930,439

PERCENTAGE DISTRIBUTION OF MOTOR VEHICLE
REGISTRATIONS, LAKE ST. CLAIR REGION, 1965

	Passenger	Commercial	Total
	%	%	%
A—Border			
Essex	87.6	12.4	100.0
Kent	79.2	20.8	100.0
Sub-total	85.3	14.7	100.0
B—Lambton			
Lambton	83.6	16.4	100.0
Total, Region	84.9	15.1	100.0
A—Border			
Essex	58.2	46.3	56.5
Kent	20.2	29.8	21.6
Sub-total	78.4	76.1	78.1
B—Lambton			
Lambton	21.6	23.9	21.9
Total, Region	100.0	100.0	100.0

TRANSPORTATION AND COMMUNICATIONS

MOTOR VEHICLE REGISTRATIONS, COUNTIES, LAKE ST. CLAIR REGION, 1960 TO 1965

	Year	Passenger Automobiles	Commercial Vehicles	Total	% Change 1965/1960
A—Border					
Essex	1960	70,683	11,126	81,809	
	1961	72,460	10,667	83,127	
	1962	73,799	11,446	85,245	+22.0
	1963	74,597	12,119	86,716	
	1964	78,510	12,232	90,742	
	1965	87,492	12,349	99,841	
Kent	1960	27,967	7,203	35,170	
	1961	28,022	7,508	35,530	
	1962	28,601	7,351	35,952	+ 8.7
	1963	39,926	7,533	47,459	
	1964	41,960	7,590	49,550	
	1965	30,291	7,949	38,240	
Sub-total	1960	98,650	18,329	116,979	
	1961	100,482	18,175	118,657	
	1962	102,400	18,797	121,197	+18.0
	1963	114,523	19,652	134,175	
	1964	120,470	19,822	140,292	
	1965	117,783	20,298	138,081	
B—Lambton					
Lambton	1960	29,712	5,482	35,194	
	1961	30,407	5,589	35,996	
	1962	30,821	5,494	36,315	+10.3
	1963	32,479	5,740	38,219	
	1964	34,192	5,784	39,976	
	1965	32,433	6,378	38,811	
Total, Region	1960	128,362	23,811	152,173	
	1961	130,889	23,764	154,653	
	1962	133,221	24,291	157,512	+16.2
	1963	147,002	25,392	172,394	
	1964	154,662	25,606	180,268	
	1965	150,216	26,676	176,892	

TRANSPORTATION AND COMMUNICATIONS

ROAD AND HIGHWAY MILEAGES BY TYPE OF ROAD, COUNTIES, LAKE ST. CLAIR REGION, 1964						
		Total Mileage	King's Highways	County Roads	Organized Township Roads	Urban Roads
A—Border						
Essex	Miles	2,050.8	224.6	259.6	1,060.1	506.5
	%	(100.0)	(11.0)	(12.7)	(51.6)	(24.7)
Kent	Miles	2,050.1	211.6	404.2	1,223.8	210.5
	%	(100.0)	(10.3)	(19.7)	(59.7)	(10.3)
Sub-total	Miles	4,100.9	436.2	663.8	2,283.9	717.0
	%	(100.0)	(10.6)	(16.2)	(55.7)	(17.5)
B—Lambton						
Lambton	Miles	2,137.1	190.4	241.5	1,461.5	243.7
	%	(100.0)	(8.9)	(11.3)	(68.4)	(11.4)
Total, Region	Miles	6,238.0	626.6	905.3	3,745.4	960.7
	%	(100.0)	(10.0)	(14.5)	(60.1)	(15.4)

NUMBER AND DISTRIBUTION OF TELEPHONES,
COUNTIES, LAKE ST. CLAIR REGION, 1954 AND 1965

	Independent System		Percentage Change		Bell Telephone Company		Percentage Change		Total		Percentage Change	
	1965	1954	1965/54	1965/54	1965	1954	1965/54	1965/54	1965	1954	1965/54	1965/54
Essex.....	3,689	4,749	-22.3		106,947	67,195	+59.2		110,636	71,944	+53.8	
Kent.....	2,206	1,269	+73.8		36,789	24,718	+48.8		38,995	25,987	+50.1	
Sub-total.....	5,895	6,018	-20.4		143,736	91,913	+56.4		149,631	97,931	+52.8	
Lambton.....	7,070	5,529	+27.9		34,365	20,210	+70.0		41,435	25,739	+61.0	
Total, Region.....	12,965	11,547	+12.3		178,101	112,123	+58.8		191,066	123,670	+54.5	

CONSTRUCTION, HOUSING AND HOUSEHOLD FACILITIES

TYPE OF OCCUPIED DWELLINGS, COUNTIES, LAKE ST. CLAIR REGION, 1951 AND 1961						
	Year	Total			Apartment or	
		Occupied Dwellings ⁽¹⁾	Single Detached ⁽²⁾	Single Attached ⁽³⁾	Flat ⁽⁴⁾	Other ⁽⁵⁾
A—Border						
Essex.....	1951	No. 57,525	42,780	3,140	11,450	155
		% (100.0)	(74.4)	(5.4)	(19.9)	(0.3)
	1961	No. 70,913	55,602	3,909	11,342	60
		% (100.0)	(78.4)	(5.5)	(16.0)	(0.1)
Kent.....						
	1951	No. 22,180	17,660	1,260	3,185	75
		% (100.0)	(79.6)	(5.7)	(14.4)	(0.3)
	1961	No. 25,133	20,875	1,211	2,996	51
		% (100.0)	(83.1)	(4.8)	(11.9)	(0.2)
Sub-total.....						
	1951	No. 79,705	60,440	4,400	14,635	230
		% (100.0)	(75.8)	(5.5)	(18.4)	(0.3)
	1961	No. 96,046	76,477	5,120	14,338	111
		% (100.0)	(79.6)	(5.4)	(14.9)	(0.1)
B—Lambton						
Lambton.....	1951	No. 20,610	16,740	860	2,900	110
		% (100.0)	(81.2)	(4.2)	(14.1)	(0.5)
	1961	No. 27,535	23,446	862	3,148	79
		% (100.0)	(85.2)	(3.1)	(11.4)	(0.3)
Total, Region.....						
	1951	No. 100,315	77,180	5,260	17,535	340
		% (100.0)	(76.9)	(5.3)	(17.5)	(0.3)
	1961	No. 123,581	99,923	5,982	17,486	190
		% (100.0)	(80.9)	(4.8)	(14.1)	(0.2)

Total, Ontario	1951	No.	1,181,125	823,930	133,855	219,360	3,980
		%	(100.0)	(69.8)	(11.3)	(18.6)	(0.3)
	1961	No.	1,640,750	1,140,653	170,312	324,859	4,926
		%	(100.0)	(69.5)	(10.4)	(19.8)	(0.3)
Region as % of Ontario	1951	%	8.5	9.4	3.9	8.0	8.5
	1961	%	7.5*	8.8	3.5	5.4	3.9

- (1) For Census purposes a dwelling is defined as a structurally separate set of living quarters with a private entrance from outside the building or from a common hallway or stairway inside.
- (2) Defined as a "single house" containing only one dwelling unit which is completely separated on all sides from any other dwelling or structure.
- (3) Includes dwelling units separated by a common wall extending from ground to roof.
- (4) Includes apartments in apartment blocks or apartment hotels; suites in duplexes or triplexes (i.e. division between dwelling units is horizontal) ; living quarters above or in rear of business premises ; janitor's quarters ; private quarters for families of staff members in hospitals or other institutions.
- (5) Includes mobile dwellings such as trailers, railway cars, boats, etc., and other unusual types of dwellings (makeshift or temporary) occupied by persons with no other usual residence at the Census date.

NUMBER OF DWELLING UNITS STARTED AND COMPLETED
IN NEW RESIDENTIAL CONSTRUCTION, SELECTED CENTRES,
LAKE ST. CLAIR REGION, 1954 AND 1961-1965

	Started						Completed		
	1954	1961	1962	1963	1964	1965	1954	1961	1962 1963 1964 1965
Chatham (city)	92	180	142	128	173	205	130	147	146 148 166 182
Sarnia (city)	404	443	142	335	344	434	334	548	194 216 256 264
Windsor (Metropolitan)	1,677	526	495	728	1,125	1,523	1,722	497	515 438 919 1,299

CONSTRUCTION, HOUSING AND HOUSEHOLD FACILITIES

OCCUPIED DWELLINGS SHOWING TENURE AND SPECIFIED CHARACTERISTICS, COUNTIES, LAKE ST. CLAIR REGION, 1951 AND 1961														
	Year	Total Occupied Dwellings		Average Number of Rooms	Tenure ⁽¹⁾				In Need of Major Repair		In Good Condition			
		No.	%		No.	%	No.	%	No.	%				
											Owner-Occupied		Tenant-Occupied	
											No.	%	No.	%
A—Border														
Essex.....	1951	57,525	5.3	37,690	65.5	19,835	34.5	5,605	9.7	n.a.	—	—		
	1961	70,913	5.5	52,612	74.2	18,301	25.8	3,621	5.1	52,614	74.2	74.2		
Kent.....	1951	22,180	5.7	15,270	68.8	6,910	31.2	2,675	12.1	n.a.	—	—		
	1961	25,133	5.9	18,166	72.3	6,967	27.7	1,576	6.3	17,559	69.9	69.9		
Sub-total.....	1951	79,705	5.4	52,960	66.4	26,745	33.6	8,280	10.4	n.a.	—	—		
	1961	96,046	5.6	70,778	73.7	25,268	26.3	5,197	5.4	70,173	73.1	73.1		
B—Lambton														
Lambton.....	1951	20,610	5.8	15,835	76.8	4,775	23.2	2,475	12.0	n.a.	—	—		
	1961	27,535	5.7	21,718	78.9	5,817	21.1	1,363	5.0	19,995	72.6	72.6		
Total, Region.....	1951	100,315	5.5	68,795	68.6	31,520	31.4	10,755	10.7	n.a.	—	—		
	1961	123,581	5.6	92,496	74.8	31,085	25.2	6,560	5.3	90,168	73.0	73.0		
Total, Ontario.....	1951	1,181,125	5.7	821,335	69.5	359,790	30.5	115,350	9.8	n.a.	—	—		
	1961	1,640,750	5.5	1,157,229	70.5	483,521	29.5	74,127	4.5	1,252,216	76.3	76.3		
Region as % of Ontario.....	1951	8.5	8.4	8.8	9.3	—	—	—	—	—	—	—		
	1961	7.5	8.0	6.4	8.8	7.2	—	8.8	7.2	—	—	—		

n.a. Not available.

(1) Dwellings were classified as owned even though mortgaged if it belonged to some member of the household. Tenant-occupied includes dwellings rented by the head or a member of the household, and dwellings in which the head of the family was provided with free living quarters, whether or not in return for services rendered.

OCCUPIED DWELLINGS SHOWING WATER AND SEWAGE UTILITIES,
COUNTIES, LAKE ST. CLAIR REGION, 1951 AND 1961

	Year	Total Occupied Dwellings	Dwellings with Running Water				Cold Only	Dwellings Without Running Water	Dwellings with	
			Source		Hot and Cold	Connection to Sewer			Septic Tank or Cesspool	
			Municipal Mains	Private Source						
A—Border										
Essex.....	1951 No. %	57,525 (100.0)	n.a.	n.a.	46,280 (80.4)	6,140 (10.7)	5,105 (8.9)	n.a.	n.a.	
	1961 No. %	70,913 (100.0)	61,073 (86.1)	8,379 (11.8)	67,052 (94.5)	2,400 (3.4)	1,461 (2.1)	41,758 (58.9)	26,515 (37.4)	
Kent.....	1951 No. %	22,180 (100.0)	n.a.	n.a.	14,370 (64.8)	3,490 (15.7)	4,320 (19.5)	n.a.	n.a.	
	1961 No. %	25,133 (100.0)	15,125 (60.2)	8,520 (33.9)	21,912 (87.2)	1,733 (6.9)	1,488 (5.9)	8,431 (33.5)	13,943 (55.5)	
Sub-total.....	1951 No. %	79,705 (100.0)	n.a.	n.a.	60,650 (76.1)	9,630 (12.1)	9,425 (11.8)	n.a.	n.a.	
	1961 No. %	96,046 (100.0)	76,198 (79.3)	16,899 (17.6)	88,964 (92.6)	4,133 (4.3)	2,949 (3.1)	50,189 (52.3)	40,458 (42.1)	
B—Lambton										
Lambton.....	1951 No. %	20,610 (100.0)	n.a.	n.a.	13,420 (65.1)	2,555 (12.4)	4,635 (22.5)	n.a.	n.a.	
	1961 No. %	27,535 (100.0)	19,495 (70.8)	6,211 (22.6)	24,430 (88.7)	1,276 (4.6)	1,829 (6.7)	10,805 (39.2)	14,023 (50.9)	
Total, Region.....	1951 No. %	100,315 (100.0)	n.a.	n.a.	74,070 (73.8)	12,185 (12.2)	14,060 (14.0)	n.a.	n.a.	
	1961 No. %	123,581 (100.0)	95,693 (77.4)	23,110 (18.7)	113,394 (91.7)	5,409 (4.4)	4,778 (3.9)	60,994 (49.4)	54,481 (44.1)	
Total, Ontario.....	1951 No. %	1,181,125 (100.0)	n.a.	n.a.	811,145 (68.7)	159,835 (13.5)	210,145 (17.8)	n.a.	n.a.	
	1961 No. %	1,640,750 (100.0)	1,267,248 (77.2)	276,120 (16.8)	1,462,170 (89.1)	81,198 (5.0)	97,382 (5.9)	1,095,011 (66.7)	396,487 (24.2)	
Region as % of Ontario....	1951 %	8.5	n.a.	n.a.	9.1	7.6	6.7	n.a.	n.a.	
	1961 %	7.5	7.6	8.4	7.8	6.7	4.9	5.6	13.7	

n.a. Not available.

OCCUPIED DWELLINGS SHOWING SANITATION FACILITIES, COUNTIES, LAKE ST. CLAIR REGION, 1951 AND 1961											
Occupied Dwellings With											
	Year	Total Occupied Dwellings	Bath Facilities			Inside Flush Toilet			Two or More		
			Exclusive Use	Shared Use	No Bath or Shower	Exclusive Use	Shared Use				
A—Border											
Essex.....	1951	No. 57,525 (100.0)	45,425 (79.0)	2,480 (4.3)	9,620 (16.7)	47,775 (83.1)	2,370 (4.1)	n.a.	—	9,236 (13.0)	n.a.
	1961	No. 70,913 (100.0)	65,624 (92.5)	1,657 (2.3)	2,171 (3.1)	64,081 (90.4)	4,447 (6.3)	—	—	9,236 (13.0)	9,236 (13.0)
Kent.....	1951	No. 22,180 (100.0)	13,580 (61.2)	700 (3.2)	7,900 (35.6)	14,585 (65.8)	790 (3.6)	n.a.	—	—	n.a.
	1961	No. 25,133 (100.0)	21,166 (84.2)	424 (1.7)	2,055 (8.2)	21,311 (84.8)	1,093 (4.3)	2,643 (10.5)	—	—	2,643 (10.5)
Sub-total.....	1951	No. 79,705 (100.0)	59,005 (74.0)	3,180 (4.0)	17,520 (22.0)	62,360 (78.2)	3,160 (4.0)	n.a.	—	—	n.a.
	1961	No. 96,046 (100.0)	86,790 (90.4)	2,081 (2.2)	4,226 (4.4)	85,392 (88.9)	5,540 (5.8)	11,879 (12.4)	—	—	11,879 (12.4)
B—Lambton											
Lambton.....	1951	No. 20,610 (100.0)	13,070 (63.4)	690 (3.4)	6,850 (33.2)	13,855 (67.2)	640 (3.1)	n.a.	—	—	n.a.
	1961	No. 27,535 (100.0)	23,829 (86.5)	513 (1.9)	1,364 (5.0)	23,454 (85.2)	1,395 (5.1)	3,136 (11.4)	—	—	3,136 (11.4)
Total, Region.....	1951	No. 100,315 (100.0)	72,075 (71.8)	3,870 (3.9)	24,370 (24.3)	76,215 (76.0)	3,800 (3.8)	n.a.	—	—	n.a.
	1961	No. 123,581 (100.0)	110,619 (89.5)	2,594 (2.1)	5,590 (4.5)	108,846 (88.1)	6,935 (5.6)	15,015 (12.1)	—	—	15,015 (12.1)
Total, Ontario.....	1951	No. 1,181,125 (100.0)	805,035 (68.2)	55,330 (4.7)	320,760 (27.1)	846,760 (71.7)	56,090 (4.7)	n.a.	—	—	n.a.
	1961	No. 1,640,750 (100.0)	1,397,122 (85.2)	64,664 (3.9)	81,582 (5.0)	1,378,207 (84.0)	115,433 (7.0)	227,607 (13.9)	—	—	227,607 (13.9)
Region as % of Ontario.....	1951	% 8.5	9.0	7.0	7.6	9.0	6.8	—	—	—	—
	1961	% 7.5	7.9	4.0	6.9	7.9	6.0	6.6	—	—	6.6

n.a. Not available.

OCCUPIED DWELLINGS SHOWING PRINCIPAL HEATING EQUIPMENT AND FUEL, COUNTIES, LAKE ST. CLAIR REGION, 1951 AND 1961

Occupied Dwellings With													
Year	Total Occupied Dwellings	Furnace Heating				Type of Fuel Used							
		Steam or Hot Water		Hot Air		Coal or Wood		Oil		Gas			
		No.	%	No.	%	No.	%	No.	%	No.	%		
A—Border													
Essex.....	1951	57,525		7,815	13.6	22,375	38.9	36,210	62.9	10,435	18.1	10,805	18.8
	1961	70,913		9,281	13.1	39,951	56.3	6,324	8.9	19,475	27.5	44,872	63.3
Kent.....	1951	22,180		1,265	5.7	5,060	22.8	10,370	46.8	2,660	12.0	9,095	41.0
	1961	25,133		1,931	7.7	9,835	39.1	3,156	12.6	3,768	15.0	18,036	71.8
Sub-total.....	1951	79,705		9,080	11.4	27,435	34.4	46,580	58.4	13,095	16.4	19,900	25.0
	1961	96,046		11,212	11.7	49,786	51.8	9,480	9.9	23,243	24.2	62,908	65.5
B—Lambton													
Lambton.....	1951	20,610		2,170	10.5	7,225	35.1	13,585	65.9	3,590	17.4	3,390	16.4
	1961	27,535		3,040	11.0	15,639	56.8	4,400	16.0	7,196	26.1	15,809	57.4
Total, Region.....	1951	100,315		11,250	11.2	34,660	34.6	60,165	60.0	16,685	16.6	23,290	23.2
	1961	123,581		14,252	11.5	65,425	52.9	13,880	11.2	30,439	24.6	78,717	63.7
Total, Ontario.....	1951	1,181,125		239,985	20.3	491,980	41.7	839,635	71.1	293,945	24.9	45,015	3.8
	1961	1,640,750		350,264	21.3	969,157	59.1	293,635	17.9	1,014,153	61.8	327,938	20.0
Region as % of Ontario...	1951	8.5		4.7		7.0		7.2		5.7		51.7	
	1961	7.5		4.1		6.8		4.7		3.0		24.0	

OCCUPIED DWELLINGS SHOWING SPECIFIED LIVING CONVENIENCES,
COUNTIES, LAKE ST. CLAIR REGION, 1951 AND 1961

Year	Total Occupied Dwellings	Occupied Dwellings with								
		Refrigeration Facilities				Home Freezer	Television Set		Passenger Automobile	
		Total(1)	Mechanical	Icebox	Total		Two or More	Total	Two or More	
A—Border										
Essex.....1951	No.	57,525	54,970	37,520	17,260	n.a.	n.a.	n.a.	32,285	n.a.
	%	(100.0)	(95.6)	(65.2)	(30.0)	—	—	—	(56.1)	—
1961	No.	70,913	70,188	69,830	348	8,333	66,695	5,926	53,733	6,722
	%	(100.0)	(99.0)	(98.5)	(0.5)	(11.8)	(94.1)	(8.4)	(75.8)	(9.5)
Kent.....1951										
	No.	22,180	19,095	13,635	5,310	n.a.	n.a.	n.a.	14,180	n.a.
	%	(100.0)	(86.1)	(61.5)	(23.9)	—	—	—	(63.9)	—
1961	No.	25,133	24,575	24,375	185	4,117	22,529	886	20,306	2,183
	%	(100.0)	(97.8)	(97.0)	(0.7)	(16.4)	(89.6)	(3.5)	(80.8)	(8.7)
Sub-total.....1951										
	No.	79,705	74,065	51,155	22,570	n.a.	n.a.	n.a.	46,465	n.a.
	%	(100.0)	(92.9)	(64.2)	(28.3)	—	—	—	(58.3)	—
1961	No.	96,046	94,763	94,205	533	12,450	89,224	6,812	74,039	8,905
	%	(100.0)	(98.7)	(98.1)	(0.6)	(13.0)	(92.9)	(7.1)	(77.1)	(9.3)
B—Lambton										
Lambton.....1951	No.	20,610	17,210	12,880	4,240	n.a.	n.a.	n.a.	13,360	n.a.
	%	(100.0)	(83.5)	(62.5)	(20.6)	—	—	—	(64.8)	—
1961	No.	27,535	26,978	26,696	267	4,808	24,439	1,209	23,111	2,932
	%	(100.0)	(98.0)	(97.0)	(1.0)	(17.5)	(88.8)	(4.4)	(83.9)	(10.6)

CONSTRUCTION, HOUSING AND HOUSEHOLD FACILITIES

Total, Region.....	1951	No.	100,315	91,275	64,035	26,810	n.a.	n.a.	59,825	n.a.
		%	(100.0)	(91.0)	(63.8)	(26.7)	—	—	(59.6)	—
1961	No.	123,581	121,741	120,901	800	17,258	113,663	8,021	97,150	11,837
	%	(100.0)	(98.5)	(97.8)	(0.6)	(14.0)	(92.0)	(6.5)	(78.6)	(9.6)
Total, Ontario.....	1951	No.	1,181,125	973,060	728,670	236,150	n.a.	n.a.	640,135	n.a.
		%	(100.0)	(82.4)	(61.7)	(20.0)	—	—	(54.2)	—
1961	No.	1,640,750	1,598,498	1,588,075	9,598	221,859	1,456,624	106,141	1,246,882	161,307
	%	(100.0)	(97.4)	(96.8)	(0.6)	(13.5)	(88.8)	(6.5)	(76.0)	(9.8)
Region as % of Ontario ...	1951	%	8.5	9.4	8.8	11.4	—	—	9.3	—
	1961	%	7.5	7.6	7.6	8.3	7.8	7.8	7.6	7.3

(1) Includes other miscellaneous types of refrigeration facilities.
n.a. not available.

Notes

Notes

Notes

Notes

REFERENCE COPY

LAKE ST. CLAIR REGION

Population
 Over 7000 ■ 1000 – 2000 ●
 2000 – 7000 ■ Under 1000 ●

Windsor – 192,185
 Sarnia – 54,097
 Chatham – 32,098
 Leamington – 9,529
 Wallaceburg – 10,657

Township Boundaries

Railways

Main Highways

4 Lane

2 Lane

Air Bases

Provincial Parks



